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No. 99-

IN THE
SUPREME COURT OF THE UNITED STATES

PULSE COMMUNICATIONS, INC.,
Petitioner,

v.

DSC COMMUNICATIONS CORP.,
Respondent.

Petition for Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR WRIT OF CERTIORARI

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QUESTION PRESENTED

Whether a producer of copyrighted computer software may, through restrictive licensing provisions, defeat the rights granted by Congress to the owners of copies of software under Section 117 of the Copyright Act.

PARTIES TO THE PROCEEDING

All parties to the proceeding are listed in the caption of the case. Pursuant to Sup. Ct. R. 29.6, Petitioner Pulse Communications, Inc. declares that it is a wholly-owned subsidiary of Hubbell, Inc.

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PETITION FOR WRIT OF CERTIORARI

Petitioner Pulse Communications, Inc. respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit below.

OPINIONS BELOW

The opinion of the court of appeals (App. 1a-27a) was entered on March 11, 1999 and is reported at 170 F.3d 1354 (Fed. Cir. 1999). The June 10, 1997 decision of the district court (App. 28a-42a) granting judgment as a matter of law in petitioner's favor on the claim of contributory copyright infringement is reported at 976 F. Supp. 359 (E.D. Va. 1997).

JURISDICTION

The court of appeals entered its judgment on March 11, 1999. App. 1a-27a. Petitioner obtained a timely extension of time within which to file a petition for certiorari by order of the Chief Justice on May 27, 1999. This Court has jurisdiction pursuant to 28 U.S.C. § 1254(1).

STATUTE INVOLVED

The statute at issue is § 117 of the Copyright Act, 17 U.S.C. § 117. Section 117 was recently amended in ways that do not alter the language at issue in this petition. The version of § 117 applicable to this case is reproduced in full at App. 43a. The recently amended version, which altered subsection designations and added two new subsections, is reproduced in full at App. 44a-45a.

STATEMENT OF THE CASE

This case concerns the proper interpretation of § 117 of the Copyright Act, 17 U.S.C. § 117, and the respective rights of sellers and purchasers of copyrighted software under that section when software is sold subject to restrictive licensing agreements. Section 117 was added to the Copyright Act in 1980, as part of an amendment designed to address issues

arising from the development of computer technology. See Computer Software Copyright Act, Pub. L. No. 96-517, § 10(b), 94 Stat. 3015, 3028-29 (1980). In pertinent part, § 117 grants "the owner of a copy of a computer program" an unqualified right to "make or authorize the making of another copy or adaptation of that computer program provided . . . that such a new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner." 17 U.S.C. § 117(1).

This section ensures that purchasers of computer software may make copies of copyrighted programs when necessary to allow those programs to function in their computer systems, as, for example, when an owner of a program loads a program into its computer's internal memory. As such, § 117 is a critical adaptation of copyright law to the realities of modern computing and an important guarantee to software owners that they can purchase the hardware of their choice and "copy or adapt[]" the software to work with it. *Id.*

Notwithstanding the purpose of § 117, the Federal Circuit below held that the restrictive terms in software licenses owned by the regional Bell operating companies ("RBOCs") meant that the RBOCs were not "owners" of the software they had purchased from respondent DSC Communications Corporation ("DSC") and therefore could not do precisely what Congress intended when it passed § 117: choose among different hardware vendors and install the DSC software on the equipment of their choice. App. 8a-13a. The Federal Circuit reasoned that whether a person is an "owner" of a copy of a computer program under § 117 is determined by reference to the terms of the licenses that invariably accompany the sale of copies of such programs. *Id.* at 11a-12a. Even though the RBOCs had paid for their copies of the DSC software and never had to return them, the Federal Circuit found that the RBOCs

did not "own" those copies because the licenses restricted their use "in ways that are inconsistent with the rights normally enjoyed by owners of copies of software." *Id.* at 10a.

The Federal Circuit's decision misconstrues § 117. Who is an "owner" of a copy of a computer program under that section is properly determined by a federal law standard independent of the private licensing agreements that are often imposed on software purchasers as a condition of sale. By determining "ownership" based upon license terms rather than substantive federal law, the decision below allows sellers of copyrighted software to expand by contract the scope of the limited monopoly rights granted to them by the Copyright Act and to engage in anticompetitive conduct. The Federal Circuit's decision is in acknowledged conflict with "the leading case on section 117 ownership" from the Ninth Circuit, App. 8a, and is also contrary in a variety of respects to the analyses employed by other federal courts and recommended by leading commentators. Petitioner therefore respectfully requests that this Court grant review to clarify this important intersection between copyright law and computer technology.

1. In 1974, as part of a general overhaul of the Copyright Act, Congress created the National Commission on New Technological Uses of Copyrighted Works ("CONTU") to study the copyright implications of recent developments in computer technology and to propose recommendations for legislative change. See Pub. L. No. 93-573, § 201, 88 Stat. 1873, 1873-74 (1974). When CONTU issued its Final Report in July, 1978, the most significant change it recommended involved the addition of a new § 117 to the Copyright Act. This section, captioned "Limitations on exclusive rights: computer programs," was designed to remove from the copyright holder's prerogatives the right to prevent certain forms of copying of computer software. In pertinent part, it provided that "the

rightful possessor of a copy of a computer program" could, without liability for copyright infringement,

> make or authorize the making of another copy or adaptation of that computer program *provided*: (1) that such a new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner.

National Comm'n on New Technological Uses of Copyrighted Works, *Final Report* 12 (1978) (emphasis in original) (hereinafter "CONTU Report").

In 1980, Congress passed the Computer Software Copyright Act, which adopted CONTU's recommendations almost verbatim. See Pub. L. No. 96-517, 94 Stat. 3015 (1980). The only change involved the substitution of the term "owner" for the term "rightful possessor" in the beginning of § 117. The legislative history of the Act does not mention this change and states only that the legislation "embodies the recommendations of [CONTU] with respect to clarifying the law of copyright of computer software." H.R. Rep. No. 96-1307, pt. 1, at 23 (1980), *reprinted in* 1980 U.S.C.C.A.N. 6460, 6482.

Section 117's principal effect is to expand the scope of permissible copying of computer software by limiting one of the copyright holder's exclusive rights. This expansion stems from the practical recognition that, unlike most other copyrighted works, computer programs cannot be used without some copying occasioned by the very nature of computer technology itself, such as loading the program onto computer hardware or making backup copies. See, *e.g.*, *Vault Corp.* v. *Quaid Software Ltd.*, 847 F.2d 255, 261 (5th Cir. 1988). Section 117 is thus intended to guarantee that "persons in rightful possession

of copies of programs be able to use them freely without fear of exposure to copyright liability." CONTU Report at 13.

Among other things, this guarantee ensures that those who purchase computer programs will be able to copy or adapt them so that they can function on the hardware of their choice. CONTU emphasized that, while "[e]arly programs were designed by machine manufacturers to be used in conjunction with one model or even one individual computer," a modern system has evolved in which the production of software and hardware are often undertaken by separate firms, and "many programs are designed to operate on any number of machines from one or more manufacturers." CONTU Report at 11. Congress therefore enacted § 117 as a "necessary limitation on the right of copyright holders . . . intended to permit owners of copies to make the programs compatible with their computer hardware or systems." *Midway Mfg. Co.* v. *Strohon*, 564 F. Supp. 741, 745 n.2 (N.D. Ill. 1983).

2. This dispute arose when the RBOCs, who had purchased telecommunications software from respondent DSC, attempted to use DSC's software on hardware supplied by petitioner Pulsecom.

a. Respondent DSC manufactures digital telecommunications equipment for telephone companies, including the RBOCs. One of the pieces of equipment that DSC sells is a digital loop carrier, or DLC. The DLC is an intermediary between a customer's telephone and an RBOC's central office, which converts the analog signals received from a telephone into a digital signal format for efficient transmission of the signal. App. 2a-3a.

The equipment at the center of this dispute is DSC's Litespan®-2000 DLC System ("Litespan system"). The Litespan system is comprised of a central microprocessor that coordinates the action of up to 500 individual interface cards, also called "hard cards" or "expansion cards." The cards at

issue here, which are printed circuit boards with on-board microprocessors, provide Plain Old Telephone Service, or "POTS." An interface card processes the signals it receives from subscribers' phones consistent with the Litespan system's requirements. App. 3a-4a.

DSC designed its Litespan POTS card, which is not protected by a patent, to be a software-based device. This means that, when an RBOC powers up its Litespan system, a temporary copy of the software is downloaded from the system's memory so that the POTS card can function. The downloaded software is known as the POTS Downloaded Image, or "POTS-DI," software. App. 3a-4a.

b. DSC transferred the Litespan system hardware and software to the RBOCs through lengthy supply agreements. The relevant portions of an illustrative agreement are reproduced at App. 46a-52a.

The agreement refers to DSC as the "Seller" and to the RBOC as the "Buyer." Under the agreement, materials and services are "offered for sale by Seller and may be purchased by Buyer." App. 46a. The agreement then defines "MATERIAL" to include *both* hardware and resident software copies.[1] *Id.*

The "INVOICES" and "TERMS OF PAYMENT" provisions of the agreement make it clear that the RBOC paid for Litespan DLCs -- hardware and resident copies of the software together – in one lump sum. For example, in the case of "PRICE COMMITMENT" or "FIRM PRICE QUOTES" purchases, the agreement provides that DSC could invoice the

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[1] The agreements make a distinction between the "software" and the medium on which a particular copy of the software is provided (*e.g.*, a diskette). App. 46a (defining "software"); *id.* at 51a (warranty providing that "[d]efective SOFTWARE medium will be replaced" on demand). While the agreements provide that the copyrighted program is being licensed to the RBOCs for their use, *id.* at 51a, they provide that the resident copy, *i.e.*, the medium containing the program copy, is being sold. *Id.* at 46a.

RBOC "the charges for the MATERIAL and/or SOFTWARE shipped . . . on the date of shipment." App. 47a. The RBOC, in turn, agreed to "pay all invoices within thirty (30) days following date of invoice." *Id.* at 49a.

The agreement's "NON-EXCLUSIVE MARKET RIGHTS" provision, one of the "GENERAL TERMS AND CONDITIONS" from Article II, recognizes the RBOC's right to "contract with *other* manufacturers and suppliers for the procurement of comparable MATERIAL or SERVICES," which includes POTS cards. App. 48a (emphasis added). The agreement also provides, however, in Article IV on "SOFTWARE," that the RBOC is permitted to use system software (including POTS-DI software) "only . . . on the equipment with which it is intended to be used" and can "copy" it only "for use with the equipment with which it was originally delivered." *Id.* at 51a.

The agreement licenses, rather than sells, the copyrighted software. App. 50a. Specifically, the agreement provides that "[t]itle to SOFTWARE furnished to buyer shall remain in Seller except as otherwise provided" in the agreement. *Id.* However, the agreement "licenses" DSC's copyright in the software to the RBOC "for the life of the MATERIAL." *Id.* In effect, the software is licensed to the RBOC forever, and nothing in the agreement requires the RBOC to return the hardware or the resident software copies to DSC after a fixed term or on a date certain (*e.g.*, upon expiration of a lease). Indeed, upon the RBOC's request, DSC was required to affix the RBOC's trademarks on the material it purchased, marking it as the RBOC's own. *Id.* at 49a-50a.

c. Petitioner Pulsecom, like DSC, is a manufacturer of telecommunications equipment. Beginning in 1993, it began developing a Litespan-compatible POTS card to compete with DSC's POTS cards. To ensure future compatibility with the Litespan system, the Pulsecom POTS card operated in the same

manner as the DSC card: by downloading a copy of the POTS-DI software into its resident memory when the RBOCs powered up their Litespan systems. From 1994 through 1996, Pulsecom provided these cards to a number of the RBOCs for testing with their Litespan systems. In 1996, Ameritech designated Pulsecom as an eligible supplier of POTS cards for the Ameritech network.

3. DSC responded to this competition by attempting to use its sales and licensing agreements with the RBOCs to prevent them from using DSC's software with any hardware other than its own. In testing or using Pulsecom's POTS cards in their Litespan systems, the RBOCs copied the DSC software to the same extent they did when using the interchangeable DSC POTS cards: copies of the DSC POTS-DI software were downloaded into the RAM memory in the card when the card was installed and initialized. CONTU and Congress had recognized that software is generally useless to the customer unless it can be copied in this way. See, *e.g.*, CONTU Report at 13; *Vault Corp.*, 847 F.2d at 261. Accordingly, the DSC licensing agreements did not purport to restrict such copying when it was done in conjunction with DSC cards. Instead, according to DSC, the restrictive provisions in its agreements with the RBOCs meant that its POTS-DI software could not be used with the hardware (POTS cards) of *other* manufacturers, such as Pulsecom.

DSC did not and could not take the position that the RBOCs' copying was not of the type Congress intended to protect when it passed § 117. Indisputably, making a temporary copy of a program in internal resident memory so that a program can be run on the owner's machine is precisely what Congress had in mind in passing § 117. See, *e.g.*, *Vault Corp.*, 847 F.2d at 261; *Strohon*, 564 F. Supp. at 745 n.2; *Apple Computer, Inc.* v. *Formula Int'l, Inc.*, 594 F. Supp. 617, 621 (C.D. Cal. 1984). Instead, DSC claimed that restrictions in its

agreements with the RBOCs meant that they did not "own" the copies of DSC's POTS-DI software they had bought, thus depriving them of the right to make copies conferred by § 117.

4. On October 8, 1996, DSC sued Pulsecom in the United States District Court for the Eastern District of Virginia, alleging, among other things, that Pulsecom contributorily infringed DSC's copyrights in the POTS-DI software when it provided copies of its POTS cards to the RBOCs for testing. DSC claimed that downloading the POTS-DI software onto the Pulsecom cards inside the RBOCs' machines was an unauthorized use and therefore, a direct infringement by the RBOCs and a contributory infringement by Pulsecom.

At the close of DSC's case, the district court granted judgment as a matter of law in favor of Pulsecom on all of DSC's claims. App. 31a-42a. With respect to the contributory infringement claim, the district court rejected DSC's position that the RBOCs were not "owners" of their DSC software due to restrictions in the licensing agreements.[2] The district court noted that "Section 117 statutorily limits a copyright owner's rights" and that the weight of authority suggested that Congress intended that section to be read broadly. *Id.* at 32a. The court found that "the existence of a license agreement between DSC and its customers does not preclude a finding that the RBOCs are 'owners of a copy' for purposes of Section 117," and that the terms of such agreements were not determinative of ownership status under § 117. *Id.* at 33a.

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[2] The district court also rejected DSC's direct infringement claims, finding that reverse-engineering a Litespan-compatible POTS card constituted fair use; it rejected trade secret claims, finding that Pulsecom used no improper means to obtain anything qualifying as a trade secret and that those claims were preempted by § 301 of the Copyright Act; and it rejected a tortious interference claim based upon a finding that Pulsecom did nothing improper in attempting to compete with DSC. App. 35a-42a.

Instead, the district court applied an independent definition of "owner" grounded in the purposes of § 117 and the ordinary meaning of the term. The court held that the RBOCs owned their copies of the software, because "the transaction involves a single payment, giving the buyer an unlimited period in which it has a right to possession, making [the] transaction a sale." App. 33a. The court concluded "[i]t is clear that Section 117 was intended to encompass the RBOCs as legitimate holders of copies of the DSC POTS-DI software." *Id.*

5. The Federal Circuit reversed this holding of the district court.[3] The court of appeals began by noting that "Congress must have meant to require more than 'rightful possession' to trigger the section 117 defense" in light of the fact that the statute used the term "'owner'" instead of the CONTU-proposed "'rightful possessor.'" App. 8a. But instead of trying to determine as a matter of law how much "more" Congress intended, the court of appeals allowed the meaning of "owner" under federal law to be determined solely by reference to the provisions of the DSC-RBOC licensing agreements.

The Federal Circuit expressly rejected the view of "the leading case on section 117 ownership," *MAI Sys. Corp.* v. *Peak Computer, Inc.*, 991 F.2d 511, 518 n.5 (9th Cir. 1993), *cert. dismissed*, 510 U.S. 1033 (1994), which held that licensees were not "owners" under § 117. App. 8a. But the court also

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[3] The court of appeals affirmed the district court's finding that Pulsecom did not tortiously interfere with any reasonable business expectancy of DSC, as well as its ruling that Pulsecom did not directly infringe DSC copyrights by making copies of the POTS-DI software on Litespan systems it had bought on the open market. App. 20a-21a, 14a-15a. The court reversed the district court's other rulings on the ground that triable issues of fact existed with respect to fair use and the existence of trade secrets, and that § 301 of the Copyright Act did not preempt the trade secret claims. *Id.* at 16a-19a, 19a-20a. It also reversed the district court's earlier grant of summary judgment to DSC on a patent infringement counterclaim filed by Pulsecom. *Id.* at 25a.

eschewed the independent, uniform standard espoused by the district court as "overly simplistic." *Id.* at 12a. Instead, the court of appeals found that "ownership is an imprecise concept." *Id.* at 8a. While paying for something and never having to give it back "is certainly relevant to whether the possessor is an owner," the Federal Circuit concluded that those factors were "not necessarily dispositive if the possessor's right to use the software is heavily encumbered by other restrictions that are inconsistent with the status of owner." *Id.* at 12a.

Accordingly, the court of appeals "turn[ed] to the agreements between DSC and the RBOCs to determine whether those agreements establish that the RBOCs are section 117 'owners' of copies of the copyrighted POTS-DI software." App. 9a. The Federal Circuit concluded that RBOCs did not in fact own the copies of the DSC software they had paid for, because the agreements contained provisions reserving all "'rights, title, and interest in the Software'" to DSC and restricting "the rights of the RBOCs . . . in ways that are inconsistent with the rights normally enjoyed by owners of copies of software" under Sections 109 and 117 of the Copyright Act. *Id.* at 10a. With respect to § 117, for example, the court of appeals reasoned, without any trace of irony, that

> The agreements also prohibit the RBOCs from using the software on hardware other than that provided by DSC. If the RBOCs were 'owners of copies' of the software, section 117 would allow them to use the software on any hardware, regardless of origin.

Id. at 11a-12a. In other words, the court of appeals reasoned that the RBOCs could not be software "owners" within the meaning of § 117 because the licensing agreements purported to strip them of the rights they would have if they were. In determining the existence of § 117 rights by reference to contractual restrictions it presumed to be valid, rather than

determining the validity of the contractual restrictions by reference to statutory rights, the court of appeals deprived the word "owner" under § 117 of any independent meaning under federal law. It also sanctioned finding infringement liability based solely on the temporary copies of the DSC POTS-DI software that were made inside the RBOCs' Litespan systems "as an essential step in the utilization of the [POTS-DI software] in conjunction with [the RBOCs'] machine[s]." 17 U.S.C. § 117(1).

REASONS FOR GRANTING THE PETITION

The high technology sector of the national economy is fast-changing, vibrant, and essential to the nation's economic health. It is therefore important that the law governing intellectual property rights in this area be both sound and certain. In holding that the rights granted by § 117 depend solely upon the extent to which private licensing agreements purport to recognize those rights, the Federal Circuit below exacerbated the growing confusion in the lower federal courts concerning the proper interpretation of § 117 and its interaction with the terms of private licensing agreements. Its decision, which will likely exert great influence in future cases given the Federal Circuit's special role in intellectual property disputes, also directly undermines the congressional purpose behind § 117 and places a potent anticompetitive weapon in the hands of software manufacturers.

I. REVIEW SHOULD BE GRANTED TO RESOLVE THE CONFUSION IN THE LOWER FEDERAL COURTS CONCERNING THE APPROPRIATE INTERPRETATION OF § 117.

1. "Some courts have given § 117 a comparatively narrow interpretation. . . . [T]he weight of the more recent cases and scholarly commentary is on the side of reading § 117 broadly, in conformity with the apparent intent of the

Commission." *Foresight Resources Corp.* v. *Pfortmiller*, 719 F. Supp. 1006, 1009-10 (D. Kan. 1989). Those words were written a decade ago. Since then, no clarity or consensus concerning the meaning of § 117 has emerged. On the contrary, as the decision below confirms, the degree and severity of the confusion in the lower federal courts has become worse.

Some courts hold that all persons holding software pursuant to a license are, by definition, not "owners" of copies of software under § 117. See *MAI Sys. Corp.* v. *Peak Computer, Inc.*, 991 F.2d 511, 518 n.5 (9th Cir. 1993), *cert. dismissed*, 510 U.S. 1033 (1994); *Advanced Computer Servs. of Mich., Inc.* v. *MAI Sys. Corp*, 845 F. Supp. 356, 367 (E.D. Va. 1994); *CMAX/Cleveland, Inc.* v. *UCR, Inc.*, 804 F. Supp. 337, 356 (M.D. Ga. 1992); *ISC-Bunker Ramo Corp.* v. *Altech, Inc.*, 765 F. Supp. 1310, 1331 (N.D. Ill. 1990). Other courts have held that an "owner of a copy of a computer program" is one who has title to a copy under the version of the U.C.C. adopted as state law. See *Novell, Inc.* v. *Network Trade Ctr., Inc.*, 25 F. Supp. 2d 1218, 1229-30 (D. Utah 1997); *Synergistic Techs., Inc.* v. *IDB Mobile Communications, Inc.*, 871 F. Supp. 24, 29 (D.D.C. 1994). Still others have held that the U.C.C. is of no assistance and that "ownership" is a fact question controlled by the parties' intent under the terms of a specific contract. See *Applied Info. Management* v. *Icart*, 976 F. Supp. 149, 153 (E.D.N.Y. 1997).

Yet another school of thought recognizes the need for a uniform federal definition of "owner" that gives effect to the policy goals Congress sought to achieve in enacting § 117.[4]

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[4] *See, e.g.*, 2 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright* § 8.08[B][1], at 8-123 (1999) (noting that, while it might be useful to consult the U.C.C. or other state law to determine ownership of copies, "state law manifestly cannot set at naught the purposes of the federal Copyright Act"); Mark A. Lemley, *Beyond Preemption: The Law and Policy of Intellectual*

(continued...)

Some of the federal courts following this approach have accorded authoritative weight to the CONTU Report and equated a § 117 "owner" with one who lawfully possesses a copy of software. See *In re Independent Servs. Orgs. Antitrust Litig.*, 964 F. Supp. 1469, 1474-75 (D. Kan. 1997); cf. *Aymes* v. *Bonelli*, 47 F.3d 23, 26 (2d Cir. 1995) (dicta). Others, like the district court below, App. 33a, have adopted the view espoused by the leading scholars of copyright and computer law and ruled that a § 117 "owner of a copy of a computer program" is one who acquires lawful possession by a transaction which "involves a single payment giving the buyer an unlimited period in which it has a right to possession" of the program. Raymond T. Nimmer, *The Law of Computer Technology* ¶ 1.24[1], at 1-144 (3d ed. 1997); *accord* 2 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright* § 8.08[B][1], at 8-122 n.39.7 (1999).

2. The multiplicity of conflicting standards reflects an even more fundamental dispute over the interplay between the federal rights granted to software owners under § 117 and the terms of private licensing agreements. At present, most sales of computer software, whether to consumers or businesses, are accompanied by agreements formally denominated as "licenses." See, *e.g.*, Philip Abromats, Comment, *Copyright Misuse and Anticompetitive Software Licensing Restrictions: Lasercomb America, Inc. v. Reynolds*, 52 U. Pitt. L. Rev. 629, 630 (1991). These licenses often contain a variety of restrictive terms, like those in the DSC-RBOC agreements, which purport either to limit the ownership interests of the software purchaser, to restrict its right to use the software, or both.

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[4] (...continued)

Property Licensing, 87 Cal. L. Rev. 111, 115 (1999) ("federal public policy . . . requires resolution of at least some intellectual property questions on intellectual property rather than contract terms").

What role such licenses should play in the § 117 analysis is a subject on which the decisions of the lower courts are divided. A number of courts have employed an analysis which assumes the validity of the terms of the licensing agreements and accepts the licenses' characterizations of the rights of the software buyer. See, *e.g.*, *MAI Sys. Corp.*, 991 F.2d at 518 n.5; *S.O.S., Inc.* v. *Payday, Inc.*, 886 F.2d 1081, 1088-89 (9th Cir. 1989); *Advanced Computer Servs. of Mich., Inc.*, 845 F. Supp. at 367; *CMAX/Cleveland, Inc.*, 804 F. Supp. at 356; *ISC-Bunker Ramo Corp.*, 765 F. Supp. at 1331; see also *ProCD, Inc.* v. *Zeidenberg*, 86 F.3d 1447, 1452-55 (7th Cir. 1996) (enforcing restrictive terms of shrinkwrap license and holding that the Copyright Act does not preempt such terms). These courts, like the Federal Circuit below, allow the copyright law consequences to flow from the language of the contracts and treat the term "owner" in § 117 as an empty vessel to be filled by contract.

The better view is that the definition of "owner" is independent of the terms of software licenses and that a reviewing court should "look through" the technical provisions of such licenses to ascertain the economic substance of the transaction in question.[5] Courts following this approach afford

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[5] *See, e.g.*, 2 Nimmer & Nimmer, *supra* ¶ 8.08[B][1], at 8-121 to 8-122 ("whether the software vendor calls its subject contract a 'license' or a 'bill of sale' is immaterial. What matters instead is whether the erstwhile 'licensee' owns a *copy* of the computer program.") (emphasis in original); Thomas Lee Hazen, *Contract Principles as a Guide For Protecting Intellectual Property Rights in Computer Software: The Limits of Copyright Protection, the Evolving Concept of Derivative Works, and the Proper Limits of Licensing Arrangements*, 20 U.C. Davis L. Rev. 105, 150 (1986) ("Determining whether a sale took place should not depend upon whether title transferred. Rather, it should depend on whether the transaction is in substance a sale."); Raymond T. Nimmer, *The Law of Computer Technology* ¶ 1.24[1], at 1-143 to 1-144 (3d. ed. 1997) ("Ownership of a copy should be determined based on the

(continued...)

software purchasers protection under § 117 notwithstanding restrictive terms in software licenses, and even, in appropriate circumstances, invalidate or preempt such terms. See, *e.g.*, *Vault Corp.* v. *Quaid Software Ltd.*, 847 F.2d 255, 270 (5th Cir. 1988) (affording § 117 protection to licensee and preempting Louisiana statute authorizing certain license restrictions); *Novell, Inc.*, 25 F. Supp. 2d at 1230-31 (extending § 117 protection to software purchasers covered by restrictive shrinkwrap licenses).

3. The Federal Circuit below aligned itself firmly with the courts that defer to the terms of software licenses and give content to statutory rights by reference to those terms. As such, it reinforced the division of authority described above between courts that employ an independent federal standard of "ownership" and those that do not.

In holding that licensees could, under certain circumstances, be § 117 "'owners,'" App. 9a, the Federal Circuit also placed itself in direct and acknowledged conflict with the Ninth Circuit's ruling in *MAI Sys. Corp.* v. *Peak Computer, Inc.*, 991 F.2d 511, 523-24 (9th Cir. 1993), *cert. dismissed*, 510 U.S. 1033 (1994), which it described as "the leading case on section 117 ownership." App. 8a. To its credit, the Federal Circuit rejected the Ninth Circuit's formalistic approach, which embodies an even more deeply flawed view of the statute than the Federal Circuit's. See 2 Nimmer & Nimmer, *supra* ¶ 8.08[B][1], at 8-119 to 8-121 (criticizing *MAI* for ignoring the Copyright Act's distinction between ownership of a copyright and ownership of a copy of a copyrighted work). "Plainly, a party who purchases copies of software from the copyright owner can hold a license under a copyright while still being an

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[5] (...continued)
actual character, rather than the label, of the transaction by which the user obtained possession. Mere labels do not control.") (citation omitted).

'owner' of a copy of the copyrighted software for purposes of section 117. We therefore do not adopt the Ninth Circuit's characterization of all licensees as non-owners." App. 9a.

Moreover, the Federal Circuit's ultimate conclusion -- that licenses which purport to reserve legal title in the seller and deprive the buyer of rights afforded to "owners" under the Copyright Act are effective in trumping the terms of § 117 -- is impossible to square with the result reached by the Fifth Circuit in *Vault Corp.* v. *Quaid Software Ltd.*, 847 F.2d 255 (5th Cir. 1988). In *Vault*, the Fifth Circuit held that § 117 provided a defense to a software purchaser who bought a copy of a computer program subject to a license which provided that all title to the software remained in the seller and restricted the purchaser from copying, modifying, or decompiling the software in any way. See *id.* at 257 n.2. While the Fifth Circuit did not analyze the § 117 "owner" issue as such,[6] it took a generous view of the protection afforded by § 117 and overrode, on preemption grounds, the license restrictions that would otherwise have disabled the purchaser from copying and decompiling the software for reverse-engineering purposes. See *id.* at 261-70. Had the Fifth Circuit employed the Federal Circuit's analysis, it could not have reached the result that it did; the software purchaser could not have qualified as an "owner."

4. This Court should grant certiorari to resolve these conflicts in lower court authority and to ensure that a clear, nationally uniform analysis is employed by federal courts analyzing § 117 rights and software licenses. Absent review by this Court, the two courts that can be expected to have the greatest role in disputes of this kind -- the Ninth Circuit, whose

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[6] For that reason, the Fifth Circuit has recently noted that it does not yet consider itself to have fully "defin[ed] the contours of the term 'owner' as it is used in § 117." *Alcatel USA, Inc.* v. *DGI Techs., Inc.*, 166 F.3d 772, 792 n.77 (5th Cir. 1999).

geographic jurisdiction includes much of the domestic high-tech industry, and the Federal Circuit, which has mandatory, national jurisdiction over patent cases and any related copyright issues, App. 5a -- will continue to employ divergent standards, *both* of which incorrectly interpret § 117 and undermine Congress' purpose in passing that statute.

In addition, as outlined above, so many different analyses are used by so many different federal courts that the existence and security of § 117 rights currently depends to a great degree upon the plaintiff's choice of forum. After the decision below, which will govern in the Fourth Circuit unless the Fourth Circuit later overrules it, see *Atari, Inc.* v. *JS & A Group, Inc.*, 747 F.2d 1422, 1439-40 (Fed. Cir. 1984) (en banc), the tendency of intellectual property plaintiffs to forum-shop and file suit in the Eastern District of Virginia because of its "rocket docket" scheduling procedures will become even more pronounced.

Granting review will permit this Court to clarify that "owner" under § 117 has a uniform federal definition, explain what that term means, and make clear that violations of contractual provisions that are in conflict with § 117 rights, whether or not they may be actionable under state law, do not amount to copyright infringement. It may also afford the Court an opportunity to clarify related analytical questions that have also divided the lower federal courts, such as the proper weight to be accorded to the CONTU Report in analyzing issues arising under the Computer Software Copyright Act,[7] or the

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[7] *Compare, e.g., Apple Computer, Inc.* v. *Franklin Computer Corp.*, 714 F.2d 1240, 1252 (3d Cir. 1983), *cert. dismissed*, 464 U.S. 1033 (1984) (CONTU Report authoritative expression of views of Congress), *with Lotus Dev. Corp.* v. *Paperback Software Int'l*, 740 F. Supp. 37, 54 (D. Mass. 1990) (CONTU Report not entitled to consideration as legislative history).

enforceability of "shrinkwrap licenses" accompanying the sale of software to consumers.[8]

II. THE DECISION BELOW IS OF BROAD NATIONAL IMPORTANCE AND HAS SIGNIFICANT ADVERSE CONSEQUENCES.

The decision below is important, because it empowers the holders of software copyrights to expand improperly the "limited monopoly" rights granted them by the Copyright Act. The Federal Circuit's decision not only frustrates the intent of Congress in passing § 117 by allowing copyright holders to prevent software purchasers from copying programs onto their machines as "an essential step in the utilization of the computer program," 17 U.S.C. § 117(1), but it also opens the door wide to anticompetitive behavior by software manufacturers.

That this decision was rendered by the Federal Circuit makes the need for this Court's intervention even more acute. The Federal Circuit has exclusive nationwide jurisdiction over all disputes involving patent law claims. See 28 U.S.C. § 1295(a)(1); *In re Innotron Diagnostics*, 800 F.2d 1077, 1080 (Fed. Cir. 1986). Particularly in the technology sector, patent and copyright claims are often conjoined in a single lawsuit. Except where another circuit court has already rendered a ruling contrary to the decision below, the Federal Circuit will likely follow this ruling in all future cases, no matter where they arise. See generally *Glaxo, Inc.* v. *Novopharm, Ltd.*, 110 F.3d 1562, 1572 (Fed. Cir. 1997). Thus, the decision below has the potential to govern the outcome of § 117 disputes originating in many, if not most, states of the union.

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[8] *Compare, e.g., Step-Saver Data Sys., Inc.* v. *Wyse Tech.*, 939 F.2d 91, 102 (3d Cir. 1991) (refusing to enforce shrinkwrap license), *with ProCD, Inc.* v. *Zeidenberg*, 86 F.3d 1447, 1452-53 (7th Cir. 1996) (enforcing shrinkwrap license).

Moreover, the Federal Circuit's decision is likely to exert considerable influence on the circuits that have not yet rendered decisions on § 117. Although other circuits are not formally obliged to defer to the Federal Circuit on matters of copyright law, that court's perceived expertise in matters of intellectual property law will likely result in substantial de facto deference being paid to its judgment in this case -- thus perpetuating and extending its erroneous ruling if review is not granted.

A. *The Decision Below Strips Software Buyers Of Important Rights That Congress Reserved To Them In § 117.*

Congress enacted § 117 to make it clear that, as a matter of federal law, "the owner of a copy of a computer program" can—without fear of incurring copyright infringement liability—"make or authorize the making of another copy or adaptation of that computer program," so long as the new copy or adaptation is made in the ordinary course of using that program with the hardware of his choice. 17 U.S.C. § 117; CONTU Report at 1-13; *Vault Corp.* v. *Quaid Software Ltd.*, 847 F.2d 255, 261 (5th Cir. 1988); *Midway Mfg. Co.* v. *Strohon*, 564 F. Supp. 741, 745 n.2 (N.D. Ill. 1983); *Apple Computer, Inc.* v. *Formula Int'l, Inc.*, 594 F. Supp. 617, 621 (C.D. Cal. 1984). This type of copying, which § 117 expressly places beyond the copyright holder's power to prevent with a copyright infringement suit, is all that the RBOCs did when they installed Pulsecom POTS cards in their Litespan systems. Yet the Federal Circuit below ruled that this kind of copying amounts to federal copyright infringement. Although it agreed that "Section 117 provides a limitation on the exclusive rights of the owner of the copyright in a piece of software," App. 7a, it ultimately concluded that a software copyright owner could defeat the copy owner's § 117 rights, and thus recapture a cause of action for copyright infringement, simply by including restrictive terms in a licensing agreement. The court of appeals

thus analyzed the issue exactly backwards, subordinating the RBOCs' § 117 right to copy to the restrictive contract provisions imposed by DSC. In so doing, it created a precedent that will routinely permit software producers to circumvent the important rights Congress intended to confer in § 117.

1. Section 117 strikes a careful balance between the rights of software developers and purchasers by reserving to every "owner of a copy of a computer program" certain rights to copy software during use. 17 U.S.C. § 117. The term "owner" must be defined as a matter of federal law, because only a federal definition will provide national uniformity and respect the careful balance Congress has struck. The Copyright Act's "express objective [is] creating national, uniform copyright law." *Community for Creative Non-Violence* v. *Reid*, 490 U.S. 730, 740 (1989).

> One of the fundamental purposes behind the copyright clause of the Constitution . . . was to promote national uniformity and to avoid the practical difficulties of determining and enforcing an author's rights under the differing laws and in the separate courts of the various States. Today, when the methods for dissemination of an author's work are incomparably broader and faster than they were in 1789, national uniformity in copyright protection is even more essential than it was then to carry out the constitutional intent.

H.R. Rep. No. 94-1476, pt. 1, at 129 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5745. Thus, directly contrary to the approach taken by the Federal Circuit below, this Court has previously recognized the need for uniform and independent definitions of generic terms in the Copyright Act, and has looked to federal common law to supply the meaning of those

terms. See generally *Community for Creative Non-Violence* v. *Reid*, 490 U.S. 730 (1989) (defining "employee").

2. The definition of "owner" that best effectuates the intent of Congress in passing § 117 is the one supported by the text, structure, and history of the Copyright Act, the meaning of "sale" in the Uniform Commercial Code, and the writings of the leading commentators: an "owner" is one who makes a lump-sum payment in exchange for possession of a copy of software that need never be returned.

a. Although the Copyright Act does not contain a formal definition of "owner," § 106(3) provides copyright owners the exclusive right "to distribute copies or phonorecords of the copyrighted work to the public *by sale or other transfer of ownership, or by rental, lease or lending*." 17 U.S.C. § 106(3) (emphasis added). The highlighted portion of the statute makes clear that a "sale" effects a transfer of "ownership" of a copy; one who comes to possess a copy through a sale is therefore the owner of the copy. It also confirms that a "sale" is not the only way to transfer ownership under the Act; § 106(3) clearly contemplates that transactions short of a full "sale" can effect a "transfer of ownership."

By dividing transactions through which a copyright holder might distribute his work into two essential categories -- "sale or other transfer of ownership" in the first clause, and "rental, lease, or lending" in the second -- Congress indicated that what separates an owner of a copy from a non-owner for federal copyright purposes is a right of permanent possession. According to the terms of § 106(3), "rental, lease, or lending" are the types of transactions that do not amount to "transfer[s] of ownership." This accords with the familiar use of these terms, all of which denote transactions in which the user must

surrender the property at the end of the use period.[9] See, *e.g.*, *In re Marhoefer Packing Co.*, 674 F.2d 1139, 1145 (7th Cir. 1982) ("[a]n essential characteristic of a true lease is that there be something of value to return to the lessor"). As with any other property transfer, it is the substance of the transaction, and not the label the parties use for it, that must control.[10]

Section 109(a) of the Copyright Act confirms this understanding. Section 109(a) is the only other part of the Copyright Act that confers rights on "the owner of a particular copy" of a protected work. 17 U.S.C. § 109(a). The cases addressing whether someone is an owner of a copy for purposes of the "first sale" rights conferred by § 109 have focused on whether, as a matter of substance, the copyright holder has exercised his one-time right to control the transfer of possession of the copy for value. See, *e.g.*, *Bourne* v. *Walt Disney Co.*, 68 F.3d 621, 631-33 (2d Cir. 1995); *United States* v. *Wise*, 550 F.2d 1180, 1191-94 (9th Cir. 1977); *United States* v. *Bily*, 406 F. Supp. 726, 731-32 (E.D. Pa. 1975).

This definition also accords with the purpose Congress sought to achieve in enacting § 117. CONTU explained the need for § 117 rights as follows:

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[9] *Black's Law Dictionary* (6th ed. 1990) defines "rent" as "[c]onsideration paid for use or occupation of property" (1297); "lease" as "[a]greement under which owner gives up possession and use of his property for valuable consideration and for definite term and at end of term owner has absolute right to retake, control and use property" (889); and "lend" as "[t]o part with a thing of value to another for a time fixed or indefinite, yet to have some time in ending . . . the thing itself . . . to be given back" (901).

[10] *See, e.g., Mapco Inc.* v. *United States*, 556 F.2d 1107, 1109 (Ct. Cl. 1977) ("Whether a bona fide sale has occurred depends not upon the form of the transaction, but upon its substance."); *In re Chase Manhattan Leasing Corp.*, 626 So. 2d 433, 434 (La. Ct. App. 1993) ("designing a sale to appear in form as a lease does not alter the true nature of the transaction").

> Obviously, creators, lessors, licensors, and vendors of copies of programs intend that they be used by their customers, so that rightful users would but rarely need a legal shield against potential copyright problems. It is easy to imagine, however, a situation in which the copyright owner might desire, for good reason or none at all, to force a lawful owner or possessor of a copy to stop using a particular program. One who rightfully possesses a copy of a program, therefore, should be provided with a legal right to copy it to that extent which will permit its use by that possessor.

CONTU Report at 13. So far as the policy objective CONTU and Congress sought to achieve with § 117 is concerned, "licensors" and "vendors" of software copies are on an equal footing. The form of transaction is secondary to the software customer's need to be able to use his copy of the software on the hardware of his choice without fear of infringement liability.

b. The general sales law principles embodied in the UCC also support the foregoing definition of "owner" in § 117. Under the UCC, "[a] 'sale' consists in the passing of title from the seller to the buyer for a price." U.C.C. § 2-106(1). Moreover, the UCC default rule for passing title focuses on the buyer's actual possession of the good, rather than on formalities. It provides that "title passes to the buyer at the time and place at which the seller completes his performance with reference to the physical delivery of the goods," and this is so even "despite any reservation of a security interest." *Id.* § 2-401(2). This, too, suggests that one sells a software copy by delivering it physically to another for value.

c. Finally, this common sense definition is endorsed by the leading scholars in the relevant fields. *Nimmer On Copyright* explains that, because "ownership of a tangible copy

is wholly distinct from copyright ownership of the work embodied therein, the upshot of [§ 117] is that when a copyright owner of a software product sells diskettes of its copyrightable work to customers, the customers may be mere licensees of the copyright, but as owners of the copy containing the computer program, they are duly vested with the Section 117 exemption." 2 Melville B. Nimmer & David Nimmer, *Nimmer On Copyright*, ¶ 8.08[B][1], at 8-119 (1999) (footnotes omitted). Importantly, "whether the software vendor calls its subject contract a 'license' or a 'bill of sale' is immaterial." *Id.* at 8-121 (footnote omitted). Rather, "[t]he parties' intent to convey a perpetual transfer in exchange for a single payment constitutes the best evidence that a 'sale' has taken place, notwithstanding use of the term 'license.'" *Id.* at 8-122 n.39.7.

Similarly, the leading treatise on computer law explains:

> Ownership of a copy should be determined based on the actual character, rather than the label, of the transaction by which the user obtained possession. Mere labels do not control. If a transaction involves a single payment giving the buyer an unlimited period in which it has a right to possession, the transaction is a sale. In this situation, the buyer owns the copy regardless of the label the parties use for the contract. . . . The pertinent issue is whether, as in a lease, the user may be required to return a copy to the vendor after the expiration of a particular period. If not, the transaction conveyed not only possession, but also transferred ownership of the copy.

Raymond T. Nimmer, *Law of Computer Technology* ¶ 1.24[1], at 1-144 (3d ed. 1997) (citations omitted).

d. Once one qualifies as an "owner" under this federal definition, the rights provided by § 117 vest automatically, and no contrary provision of a licensing agreement can defeat them for copyright purposes. If restrictive licensing terms purport to nullify those rights, the licensor may have recourse to a claim for breach of contract under state law, but it cannot claim that its licensee infringed the rights provided by the Copyright Act. See, *e.g.*, *Quality King Distribs., Inc.* v. *L'Anza Research Int'l, Inc.*, 118 S. Ct. 1125, 1129 (1998) (noting "the critical distinction between statutory rights and contract rights" and observing that violation of a contractual undertaking in derogation of rights conferred upon an owner under the Copyright Act cannot constitute infringement); see also H.R. Rep. No. 94-1476, pt. 1, at 79, *reprinted in* 1976 U.S.C.C.A.N. at 5693 ("This does not mean that conditions on future disposition of copies . . . imposed by a contract between their buyer and seller, would be unenforceable between the parties as a breach of contract, but it does mean that they could not be enforced by an action for infringement of copyright.").

That is because "the exclusive right to distribute is a limited right," which is expressly "limited by the provisions of §§ 107 through 120." *Quality King*, 118 S. Ct. at 1130; see also 17 U.S.C. § 501 (defining "infringer" as, *inter alia*, "[a]nyone who violates any of the exclusive rights of the copyright owner as provided by sections 106 through 118"). In other words, § 117 is one of the provisions that circumscribes the copyright holder's legitimate ownership rights. Whatever else the terms of private contracts or licensing agreements may do, they may not expand those rights for purposes of federal copyright law. As Professor Hazen has observed, "a licensing agreement cannot create greater rights than a valid copyright would provide." Hazen, *Contract Principles*, *supra* note 5, at 149. "[W]hile contractual provisions can be helpful in determining the scope of a creator's proprietary interest in software, a 'license' of computer software

that is nothing more than a disguised sale should not be enforceable as a 'back door' way of expanding the Copyright Act's protection." *Id.* at 105.

That is precisely what DSC attempted to do here: it attempted to arrogate for itself by contract a right that Congress expressly gave to the RBOCs by statute. In rendering a legal ruling that, in effect, permitted DSC to use its contractual right to vitiate the RBOCs' federal statutory right, the Federal Circuit made it impossible for the RBOCs to use their own copies of the POTS-DI software on their own equipment without incurring infringement liability. Unless reviewed and reversed, the decision below thus threatens to allow software producers to extend the limited monopolies granted to them by federal law at the expense of software consumers, in direct contravention of the intent of Congress.

B. *The Decision Below Threatens To Injure Competition In A Vital Economic Area.*

The principal practical effect of the Federal Circuit's holding is to require that the RBOCs use only DSC's hardware, rather than hardware supplied by any of its competitors. This is a self-evidently anticompetitive result, and it highlights the other adverse consequence that will eventuate should certiorari not be granted: the leveraging of the "limited monopolies" created by software copyrights into market clout in ancillary products related to software.

1. The rights of copyright holders are "*exclusive*." See, *e.g.*, U.S. Const. art. I, § 8, cl. 8 (emphasis added); *Fortnightly Corp.* v. *United Artists Television, Inc.*, 392 U.S. 390, 394 & n.9 (1968). As such, the Copyright Act necessarily imposes limits on competition by "accord[ing] to each copyright holder a limited form of monopoly." 4 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright*, ¶ 13.09[A], at 13-284

(1999); see also *Stewart* v. *Abend*, 495 U.S. 207, 229 (1990) (discussing "limited monopoly granted to" copyright owner).

"The Copyright Act provides the owner of a copyright with a potent arsenal of remedies" to enforce this "limited monopoly" against intrusion by potential competitors. *Sony Corp.* v. *Universal City Studios, Inc.*, 464 U.S. 417, 429, 433 (1984); 17 U.S.C. §§ 501-505.[11] As a consequence, copyright protections are carefully circumscribed by a set of express statutory limitations, among which is § 117. See 17 U.S.C. § 106 (copyright owner's "exclusive rights" are "[s]ubject to [limitations in] sections 107 through 120"). Defining the contours of these limits on "exclusive rights" is vital to ensuring vigorous competition because the broader the "limited monopoly" afforded to the copyright holder, the greater the burden necessarily imposed on competition. See *United States* v. *Loew's Inc.*, 371 U.S. 38, 45 (1962). In order to avoid unjustifiably dampening the forces of competition outside the limited sphere endorsed by Congress in the Copyright Act, the Court has accordingly expressed its "reluctance to expand the protections afforded by the copyright without explicit legislative guidance." *Sony Corp.*, 464 U.S. at 431.

2. The effect of the Court of Appeals' improper interpretation of the term "owner" in § 117 is to expand the copyright protections for computer programs in a manner that

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[11] In an "infringement action," a federal court may: (1) issue nationwide "temporary and final injunctions," 17 U.S.C. § 502(a); (2) enter orders "impounding" and "destr[oying]" all "copies . . . made or used in violation of the copyright owner's exclusive rights," *id.* § 503(a), (b); (3) award a copyright holder "actual damages and any additional profits of the infringer" or "statutory damages," *id.* § 504(a); and (4) allow "recovery of full costs" including "a reasonable attorney's fee," *id.* § 505. Moreover, absent evidence of a "sham" litigation, a copyright owner's efforts to protect, enforce and expand the outer limits of his statutory "monopoly" through litigation are "immun[e]" from antitrust scrutiny. *See Professional Real Estate Investors, Inc.* v. *Columbia Pictures Indus., Inc.*, 508 U.S. 49, 60-61 (1993).

permits anticompetitive "tying" arrangements of a type repeatedly condemned by this Court. Like all monopolists, a copyright holder has a pronounced tendency, where possible, to attempt to abuse "power gained through . . . copyright . . . 'in one market to expand his empire into the next.'" *Eastman Kodak Co.* v. *Image Technical Servs., Inc.*, 504 U.S. 449, 479 n.29 (1992) (quoting *Times-Picayune Publ'g Co.* v. *United States*, 345 U.S. 594, 611 (1953)). This Court has condemned efforts by copyright holders to exploit their "limited monopoly" under the Copyright Act to create a separate monopoly by "tying" the copyrighted work with other products.[12]

The misconstruction of § 117 in the decision below allows just such a result and opens the door to the type of anticompetitive activity this Court has expressly disapproved under antitrust principles in *Eastman Kodak*. The Federal Circuit's ruling permits copyright owners to expand by contract the scope of their copyrights to exclude competitors from providing the computer hardware necessary to operate the copyrighted software. See *Loew's*, 371 U.S. at 48; *United States* v. *Paramount Pictures, Inc.*, 334 U.S. 131, 157 (1948). Indeed, in this case, despite the fact that DSC's agreements expressly permit the RBOCs to "contract with other manufacturers and suppliers for the procurement of comparable MATERIAL or SERVICES," App. 46a, the Court of Appeals' interpretation of § 117 allowed DSC to prevent third-parties from competing with it to provide the computer hardware necessary to utilize the software it purchased from DSC. Cf. *DSC Communications Corp.* v. *DGI Techs., Inc.*, 81 F.3d 597, 601 (5th Cir. 1996) (noting that "DSC seems to be attempting to use its copyright to obtain a patent-like monopoly over unpatented microprocessor cards").

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[12] *See, e.g., United States* v. *Loew's Inc.*, 371 U.S. 38, 48 (1962); *United States* v. *Paramount Pictures, Inc.*, 334 U.S. 131, 157 (1948).

As this Court has explained, "copyright has developed in response to significant changes in technology" and Congress has the "constitutional authority and the institutional ability to accommodate [the competing interests] implicated by such new technology." *Sony Corp.*, 464 U.S. at 430-31. Presented with rapid technological advances in computing, Congress sought to make clear that an owner of a copy of a computer program could "utiliz[e]" the computer program without fear that his actions were subject to infringement liability. 17 U.S.C. § 117(1); see also CONTU Report at 13 (explaining technological advances that necessitated modification of copyright law to ensure that a computer program could be copied "to that extent which will permit its use").

The Court of Appeals' erroneous decision gives software copyright holders a potent tool by which they can avoid this congressional policy choice and leverage their intellectual property rights in software into power over downstream markets for hardware or other ancillary products, precisely as DSC did here. Cf. *MAI Sys. Corp.* v. *Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 510 U.S. 1033 (1994) (demonstrating potential effect on markets for computer repair and servicing). The potential for competitive disruption and distortion in "derivative aftermarkets" is particularly widespread given the near-ubiquity of products that are now sold with a resident software component, including such items as home appliances and automobiles. *Eastman Kodak*, 504 U.S. at 479 n.29. Because the decision below threatens widespread frustration of congressional intent and impairment of competition, review by this Court is warranted.

CONCLUSION

The petition for a writ of certiorari should be granted.

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APPENDICES

APPENDIX A

DSC COMMUNICATIONS CORPORATION, Plaintiff-Appellant,

v.

PULSE COMMUNICATIONS, INC., Defendant-Cross Appellant.

Nos. 98-1024, 98-1031.

United States Court of Appeals, Federal Circuit.

March 11, 1999.

Before MAYER, Chief Judge, FRIEDMAN, Senior Circuit Judge, and BRYSON, Circuit Judge

BRYSON, Circuit Judge.

DSC Communications Corporation (DSC) and Pulse Communications, Inc., (Pulsecom) make products for the telephone industry and compete for the business of the Regional Bell Operating Companies, more commonly known as the "RBOCs." Competition between the two parties led to this litigation over certain products that the two produce for use in commercial telephone systems.

DSC struck first, filing an action in the United States District Court for the Eastern District of Virginia in which it

alleged that Pulsecom had committed various federal and state law violations, including (1) contributory infringement of DSC's copyright in certain software used with one of DSC's products; (2) direct infringement of DSC's copyright in that software; (3) misappropriation of DSC's trade secrets; and (4) tortious interference with DSC's business expectancy. Pulsecom then counterclaimed, charging that DSC had infringed Pulsecom's U.S. Patent No. 5,263,-081 (the '081 patent).

The parties went to trial on DSC's claims, and at the close of DSC's case-in-chief, Pulsecom moved for judgment as a matter of law. The court granted the motion and dismissed all four of DSC's claims. With respect to Pulsecom's counterclaim of patent infringement, the court held a hearing to construe the claims, and the parties subsequently filed cross-motions for summary judgment. The court granted DSC's motion and entered a summary judgment of noninfringement.

I

This case involves certain components of digital loop carrier systems (DLCs), electronic devices that allow telephone companies to serve large numbers of subscribers efficiently. Before the advent of DLCs, telephone companies had to run copper wire from their central offices to the telephones of each of their subscribers. DLCs allow the individual copper lines to be run over much shorter distances, resulting in large savings for telephone companies. Typically, a DLC is placed in a location central to a number of subscribers, and copper lines are run over the relatively short distances from the DLC to the subscribers.

The DLC acts as an analog-to-digital converter and as a signal modulator-demodulator. The electrical signals that travel over the copper lines between the DLC and the

subscribers are voice-frequency analog signals, but the signals that travel between the DLC and the central telephone office are digital signals that travel over a high-bandwidth (*e.g.*, fiber optic) digital channel. The DLC converts the various analog signals it receives from individual subscribers to a digital format and modulates those digital signals into a high-bandwidth composite signal that is sent to the central office through the digital channel. The DLC performs the reverse process on signals traveling from the central office to individual subscribers.

The devices at the heart of the dispute in this case are the "Litespan 2000" DLC, which is manufactured by DSC, and the interface cards, which DSC and Pulsecom designed to work with the Litespan. The Litespan has a backplane connecting 500 interface card slots, through interface circuitry, to a microprocessor. The backplane is controlled by an application-specific integrated circuit that uses a particular signaling protocol. The purpose of the interface cards is to comport with the backplane protocol while providing a particular type of service to subscribers. For example, a single Litespan might have some interface cards providing POTS (plain old telephone service) service and other interface cards providing PBX (private branch exchange) service. The analog signals traveling between the subscribers and the two types of interface cards may be quite different, but the interface cards process the signals so that they are compatible with the Litespan's backplane protocol.

Litespans and individual interface cards each have their own microprocessors and interface circuitry, which require software to operate. Two software packages are at issue here. The first is the Litespan System software, which includes both the Litespan operating system software and various Litespan utility programs. The second is the POTS-DI (download

image) software, which DSC developed to operate its POTS interface cards. Both the Litespan System software and the POTS-DI software normally reside in nonvolatile storage within Litespan systems. When a DSC POTS card is inserted into a Litespan and powered up, a copy of the POTS-DI software is downloaded into volatile memory on the POTS card. When the POTS card is powered down, its copy of the POTS-DI software ceases to exist. This design allows changes to be made to the POTS-DI software in a central location (*i.e.*, in the Litespan system) with no need to update software in the individual POTS cards.

DSC designed the Litespan to be used in the telephone networks of the RBOCs, and it transferred the Litespan technology to the RBOCs through a series of comprehensive agreements. The seven agreements at issue here—DSC-Ameritech, DSC-NYNEX, DSC-Bell Atlantic (1993-96 and 1996-99), DSC-U.S. West, DSC-Pacific Bell, and DSC-BellSouth—have generally similar provisions. The agreements all contain provisions that license, under a variety of restrictions, the Litespan System software and POTS-DI software to the RBOCs.

Pulsecom has developed a Litespan-compatible POTS card to compete with DSC's POTS card. Pulsecom decided not to develop the software necessary to operate its POTS card, but rather to design the card so that—like DSC's POTS card— it downloads the POTS-DI software from the host Litespan into its resident memory upon power-up. Pulsecom's design has the obvious advantage of allowing Pulsecom's POTS cards to remain compatible with the Litespan system if DSC modifies its Litespan System software and POTS-DI software.

II

A

Although DSC's complaint alleged only copyright and state law claims, we have jurisdiction over this appeal under 28 U.S.C. § 1295(a)(1) because Pulsecom filed a counterclaim that raised a nonfrivolous claim of patent infringement. *See generally In re Innotron Diagnostics*, 800 F.2d 1077, 1080, 231 USPQ 178, 180 (Fed.Cir.1986); *Schwarzkopf Dev. Corp. v. Ti-Coating, Inc.*, 800 F.2d 240, 244, 231 USPQ 47, 50 (Fed.Cir.1986). Section 1295(a)(1) gives this court exclusive jurisdiction over an appeal from a final judgment of a district court "if the jurisdiction of that court was based, in whole or in part, on [28 U.S.C. § 1338]." The congressional policy underlying section 1295(a)(1) was to ensure uniform resolution of patent law disputes. In light of that policy and the plain language of section 1295(a)(1), we have held that our appellate jurisdiction extends to cases in which nonfrivolous claims of patent infringement have been raised in compulsory counterclaims. *See Aerojet-General Corp. v. Machine Tool Works*, 895 F.2d 736, 739-45, 13 USPQ2d 1670, 1672-78 (Fed.Cir.1990) (in banc). While the court in *Aerojet-General* did not need to decide whether to apply that principle to permissive counterclaims, we see no sufficient basis in the language or purpose of section 1295(a)(1) to distinguish between compulsory and permissive counterclaims. *See Unique Concepts, Inc. v. Manuel*, 930 F.2d 573, 575, 18 USPQ2d 1654, 1656 (7th Cir.1991); John Donofrio & Edward C. Donovan, *Christianson v. Colt Industries Operating Corp.: The Application of Federal Question Precedent to Federal Circuit Jurisdiction Decisions*, 45 Am. U.L.Rev. 1835, 1874-75 (1996). We therefore hold that any counterclaim raising a nonfrivolous claim of patent infringement is sufficient to support this court's appellate jurisdiction.

DSC's principal contention on appeal is that the district court improperly granted judgment to Pulsecom on DSC's contributory copyright infringement claim at the close of DSC's case. On that issue, as on the other copyright and state law issues before us, we follow the law of the circuit from which this appeal is taken. *See Glaxo, Inc. v. Novopharm, Ltd.*, 110 F.3d 1562, 1572, 42 USPQ2d 1257, 1265 (Fed.Cir.1997); *Atari, Inc. v. JS & A Group, Inc.*, 747 F.2d 1422, 1439-40, 223 USPQ 1074, 1087 (Fed.Cir.1984) (in banc). With respect to the issues raised in DSC's appeal, our task is therefore to determine how the Fourth Circuit would decide those issues.

DSC's theory of contributory infringement is that each time an RBOC powers up a Pulsecom POTS card in one of its Litespan systems, it directly infringes DSC's POTS-DI software copyright by copying the POTS-DI software from the Litespan into the resident memory of a Pulsecom POTS card. An act of direct infringement is a necessary predicate for any derivative liability on the part of Pulsecom; absent direct infringement, there can be no contributory infringement. *See, e.g., Subafilms Ltd. v. MGM-Pathe Communications Co.*, 24 F.3d 1088, 1092, 30 USPQ2d 1746, 1749 (9th Cir.1994). The district court disposed of DSC's claim on the ground that DSC had not made a prima facie showing of direct infringement.

Pivotal to the proper resolution of DSC's copyright infringement claim is the interpretation and application of section 117 of the Copyright Act, 17 U.S.C. § 117. Because the Fourth Circuit has not had occasion to construe section 117, we have no direct guidance as to how that court would approach the problem in this case. We therefore look to general principles of copyright law in addressing the copyright infringement issue.

Section 117 provides a limitation on the exclusive rights of the owner of the copyright in a piece of software. It provides, in pertinent part:

> [I]t is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaptation of that computer program provided: (1) that such a new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner. . . .

17 U.S.C. § 117.

The district court concluded that making copies of the POTS-DI software (in the resident memory of POTS cards) was an "essential step in the utilization" of the POTS-DI software and that there was no evidence that the RBOCs used the software in any other manner that would constitute infringement. Accordingly, under the district court's theory of the case there was no direct infringement (and thus no contributory infringement) if the RBOCs were section 117 "owners" of copies of the POTS-DI software.

The district court then held that the RBOCs were "owners" of copies of the POTS-DI software because they obtained the software by making a single payment and obtaining a right to possession of the software for an unlimited period. Those attributes of the transaction, the court concluded, made the transaction a "sale."

DSC challenges the district court's conclusion that, based on the terms of the purchase transactions between DSC and the RBOCs, the RBOCs were "owners" of copies of the POTS-DI software . In order to resolve that issue, we must

determine what attributes are necessary to constitute ownership of copies of software in this context.

Unfortunately, ownership is an imprecise concept, and the Copyright Act does not define the term. Nor is there much useful guidance to be obtained from either the legislative history of the statute or the cases that have construed it. The National Commission on New Technological Uses of Copyrighted Works ("CONTU") was created by Congress to recommend changes in the Copyright Act to accommodate advances in computer technology. In its final report, CONTU proposed a version of section 117 that is identical to the one that was ultimately enacted, except for a single change. The proposed CONTU version provided that "it is not an infringement for the *rightful possessor of a copy* of a computer program to make or authorize the making of another copy or adaptation of that program. . . ." *Final Report of the National Commission on New Technological Uses of Copyrighted Works*, U.S. Dept. of Commerce, PB-282141, at 30 (July 31, 1978) (emphasis added). Congress, however, substituted the words "owner of a copy" in place of the words "rightful possessor of a copy." *See* Pub.L. No. 96-517, 96th Cong., 2d Sess. (1980). The legislative history does not explain the reason for the change, *see* H.R.Rep. No. 96-1307, 96th Cong., 2d Sess., pt. 1, at 23 (1980), but it is clear from the fact of the substitution of the term "owner" for "rightful possessor" that Congress must have meant to require more than "rightful possession" to trigger the section 117 defense.

In the leading case on section 117 ownership, the Ninth Circuit considered an agreement in which MAI, the owner of a software copyright, transferred copies of the copyrighted software to Peak under an agreement that imposed severe restrictions on Peak's rights with respect to those copies. *See MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 26

USPQ2d 1458, 1462 (9th Cir.1995). The court held that Peak was not an "owner" of the copies of the software for purposes of section 117 and thus did not enjoy the right to copy conferred on owners by that statute. The Ninth Circuit stated that it reached the conclusion that Peak was not an owner because Peak had licensed the software from MAI. *See id.* at 518 n. 5. That explanation of the court's decision has been criticized for failing to recognize the distinction between ownership of a copyright, which can be licensed, and ownership of copies of the copyrighted software. *See, e.g.*, 2 Melville B. Nimmer, *Nimmer on Copyright* ¶ 8.08[B][1], at 8-119 to 1-121 (3d ed.1997). Plainly, a party who purchases copies of software from the copyright owner can hold a license under a copyright while still being an "owner" of a copy of the copyrighted software for purposes of section 117. We therefore do not adopt the Ninth Circuit's characterization of all licensees as non-owners. Nonetheless, the *MAI* case is instructive, because the agreement between MAI and Peak, like the agreements at issue in this case, imposed more severe restrictions on Peak's rights with respect to the software than would be imposed on a party who owned copies of software subject to the rights of the copyright holder under the Copyright Act. And for that reason, it was proper to hold that Peak was not an "owner" of copies of the copyrighted software for purposes of section 117. *See also Advanced Computer Servs. of Mich. v. MAI Sys. Corp.*, 845 F.Supp. 356, 367, 30 USPQ2d 1443, 1452 (E.D.Va.1994) ("MAI customers are not 'owners' of the copyrighted software; they possess only the limited rights set forth in their licensing agreements"). We therefore turn to the agreements between DSC and the RBOCs to determine whether those agreements establish that the RBOCs are section 117 "owners" of copies of the copyrighted POTS-DI software.

Each of the DSC-RBOC agreements contains a provision that is similar in effect to the following, taken from

the DSC-BellSouth agreement: "All rights, title and interest in the Software are and shall remain with seller, subject, however, to a license to Buyer to use the Software solely in conjunction with the Material [*i.e.*, the Litespan-2000 and related equipment] during the useful life of the Material." Two of the agreements also contain clauses that provide for the passage of title to all the material transferred from DSC to the RBOCs, except for the software. The language and the context of those clauses makes it clear that the clauses refer to DSC's rights to the copies of the software in the RBOCs' possession, not DSC's copyright interest in the software. There was no need for a contract clause making clear that DSC was not selling its copyrights in its software to its customers, as it was obvious that DSC did not intend to convey any ownership rights in its copyright as part of the licensing agreements with the RBOCs. The question of ownership of the copies of the software, by contrast, was a matter that needed to be addressed in the contracts.

Not only do the agreements characterize the RBOCs as non-owners of copies of the software, but the restrictions imposed on the RBOCs' rights with respect to the software are consistent with that characterization. In particular, the licensing agreements severely limit the rights of the RBOCs with respect to the POTS-DI software in ways that are inconsistent with the rights normally enjoyed by owners of copies of software.

Section 106 of the Copyright Act, 17 U.S.C. § 106, reserves for a copyright owner the following exclusive rights in the copyrighted work: the right to reproduce the work; the right to prepare derivative works; the right to distribute copies of the work; the right to perform the work publicly; and the right to display the work publicly. Those rights are expressly limited, however, by sections 107 through 120 of the Act. Of particular importance are the limitations of sections 109 and

117. As we have seen, section 117 limits the copyright owner's exclusive rights by allowing an owner of a copy of a computer program to reproduce or adapt the program if reproduction or adaptation is necessary for the program to be used in conjunction with a machine. Section 109, which embodies the "first sale" doctrine, limits the copyright owner's otherwise exclusive right of distribution by providing, in relevant part, that

> the owner of a particular copy . . . is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy. . . .
>
> * * * * *
>
> Notwithstanding [the above], unless authorized by . . . the owner of copyright in a computer program . . . [no] person in possession of a particular copy of a computer program . . . may, for the purposes of direct or indirect commercial advantage, dispose of, or authorize the disposal of, the possession of that . . . computer program . . . by rental, lease, or lending. . . .

17 U.S.C. § 109.

Each of the DSC-RBOC agreements limits the contracting RBOC's right to transfer copies of the POTS-DI software or to disclose the details of the software to third parties. For example, the DSC-Ameritech agreement provides that Ameritech shall "not provide, disclose or make the Software or any portions or aspects thereof available to any person except its employees on a 'need to know' basis without the prior written consent of [DSC]. . . ." Such a restriction is plainly at odds with the section 109 right to transfer owned copies of software to third parties. The agreements also prohibit the ROBCs from using the software on hardware other

than that provided by DSC. If the RBOCs were "owners of copies" of the software, section 117 would allow them to use the software on any hardware, regardless of origin. Because the DSC-RBOC agreements substantially limit the rights of the RBOCs compared to the rights they would enjoy as "owners of copies" of the POTS-DI software under the Copyright Act, the contents of the agreements support the characterization of the RBOCs as non-owners of the copies of the POTS-DI software.

In finding that the RBOCs were owners of copies of the POTS-DI software, the district court relied heavily on its finding that the RBOCs obtained their interests in the copies of the software through a single payment and for an unlimited period of time. It is true that the transfer of rights to the POT-DI software in each of the agreements did not take the form of a lease, and that the transfer in each case was in exchange for a single payment and was for a term that was either unlimited or nearly so. One commentator has argued that when a copy of a software program is transferred for a single payment and for an unlimited term, the transferee should be considered an "owner" of the copy of the software program regardless of other restrictions on his use of the software. *See* Raymond T. Nimmer, *The Law of Computer Technology* ¶ 1.24[1], at 1-143 to 1-144 (3d ed.1997). That view has not been accepted by other courts, however, and we think it overly simplistic. The concept of ownership of a copy entails a variety of rights and interests. The fact that the right of possession is perpetual, or that the possessor's rights were obtained through a single payment, is certainly relevant to whether the possessor is an owner, but those factors are not necessarily dispositive if the possessor's right to use the software is heavily encumbered by other restrictions that are inconsistent with the status of owner.

In passing, the district court found added support for its ruling on the contributory infringement issue in the "non-

exclusive market rights" clause in DSC's contracts with the RBOCs. The court concluded that the market rights clause supported its view that the RBOCs were entitled to use the POTS-DI software in connection with Pulsecom's POTS cards, because otherwise there would be no point in permitting the RBOCs to buy equipment such as POTS cards from another source.

We conclude that the district court read the market rights clause too broadly. The market rights clause gave the RBOCs the right to obtain competing products and software from other sources, but it did not give the RBOCs the right to copy DSC's copyrighted software in the course of using other companies' products. In fact, the contracts specifically prohibited the RBOCs from copying DSC's software except for use with DSC equipment.

In light of the restrictions on the RBOCs' rights in the copies of the POTS-DI software, we hold that it was improper for the court to conclude, as a matter of law, that the RBOCs were "owners" under section 117 of the copies of DSC's software that were in their possession. The court was therefore incorrect to rule, at the close of DSC's case, that section 117 of the Copyright Act gave the RBOCs the right to copy the POTS-DI software when using Pulsecom's POTS cards without violating DSC's copyright in the software. Accordingly, we reverse the district court's order granting judgment for Pulsecom on DSC's contributory infringement claim.

B

DSC next challenges the district court's ruling—again at the close of DSC's case-in-chief—dismissing DSC's claim of direct copyright infringement.

In its amended complaint, DSC charged that Pulsecom committed direct copyright infringement by creating copies of the POTS-DI software, both in two Litespan systems that Pulsecom obtained on the open market, and in the RBOCs' own Litespan systems. The district court found no infringement on the ground that the RBOCs' rights under 17 U.S.C. § 117 allowed them to authorize the making of copies of the POTS-DI software and thus shielded Pulsecom from liability for making copies of the software on the RBOCs' Litespan systems. Our rejection of the district court's ruling that the RBOCs were entitled under section 117 to make such copies requires that we also reject the court's conclusion that Pulsecom was legally entitled to make copies of the POTS-DI software by using the RBOCs' Litespan systems. *See Alcatel USA, Inc. v. DGI Techs., Inc.*, 166 F.3d 772, 789-92 (5th Cir.1999). Accordingly, that aspect of DSC's direct infringement claim must be remanded to the district court for further proceedings.

With respect to Pulsecom's activities in creating copies of the POTS-DI software with its own Litespan systems, we reach a different conclusion. Pulsecom obtained its Litespan systems on the open market. It was thus an owner of those systems and the associated software, and it was not subject to any restriction on its ownership interest through a licensing agreement or otherwise. As such, it was entitled, under 17 U.S.C. § 117, to make such copies of the POTS-DI software as were necessary to operate the systems. To the extent that DSC's direct infringement claim is directed at Pulsecom's conduct in making copies of the POTS-DI software during the operation of its own Litespan systems, DSC has no valid claim, and the district court's ruling is correct. Although DSC characterizes Pulsecom's activities in obtaining the Litespan systems as devious because Pulsecom did not purchase the systems in its own name, we attach no legal significance to the fact that Pulsecom used a third party to purchase the Litespan

systems. Pulsecom's agent obtained the Litespan systems without restriction on their use, and there is no evidence that the copies were obtained through any misrepresentations that would affect the use that Pulsecom could lawfully make of the systems.

The district court dismissed DSC's direct copyright infringement claim on the ground that Pulsecom's conduct was excused by the affirmative defense of fair use for reverse engineering, as discussed in *Sega Enterprises, Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1520, 24 USPQ2d 1561, 1569 (9th Cir.1992). The *Sega* case, however, does not stand for the proposition that any form of copyright infringement is privileged as long as it is done as part of an effort to explore the operation of a product that uses the copyrighted software. On the basis of DSC's evidence at trial, Pulsecom's activities in creating copies of the POTS-DI software on its POTS cards by using the RBOCs' Litespan systems does not qualify as "fair use" under the *Sega* analysis. DSC's evidence showed that Pulsecom representatives made copies of the POTS-DI software on Pulsecom POTS cards as part of the ordinary operation of those cards, not as part of an effort to determine how the Litespan system worked. Rather than being part of an attempt at reverse engineering, the copying appears to have been done after Pulsecom had determined how the system functioned and merely to demonstrate the interchangeability of the Pulsecom POTS cards with those made and sold by DSC.

Of course, Pulsecom has not put in its evidence on direct infringement, since the court granted judgment for Pulsecom at the close of the DSC's case. It is possible that Pulsecom may be able to make out a case of fair use under the *Sega* case or that there was no prohibited copying of the DSC software by Pulsecom, but in light of the state of the evidence at the close of DSC's case-in-chief, it was error for the district court to take the direct infringement case away from the jury

with respect to the claims relating to the copies Pulsecom allegedly made of the POTS-DI software.

Finally, DSC argues in a footnote that Pulsecom made multiple copies of the Litespan System software and that its apparent copying of that software constitutes direct copyright infringement. In its amended compliant, however, DSC appeared to limit its direct copyright claim to the copying of the POTS-DI software. On remand, the district court can determine whether DSC's claim extends to the copies Pulsecom allegedly made of the Litespan System software or is limited to the copies Pulsecom made of the POTS-DI software.

C

DSC next argues that the district court improperly directed judgment as a matter of law that Pulsecom is not liable for misappropriating DSC's trade secrets under Virginia trade secrets law. The court found that because Pulsecom purchased the Litespan systems on the open market and not by improper means, it did not misappropriate any of DSC's trade secrets through the purchase of the Litespan systems. The court also found that Pulsecom's use of a "snooper board" at the NYNEX testing facilities to examine DSC's Litespan system did not lead to the misappropriation of DSC's trade secrets. On that issue, the court held that the only information gathered by Pulsecom's "snooper board" was information about the locations in the Pulsecom boot code that the Litespan system looked at to determine if a particular POTS card was a DSC card or not. The court further found that there was no evidence that the DSC lock-out software accessed by Pulsecom was a trade secret. As to the charge that Pulsecom obtained information regarding certain commands from Litespan manuals that a Pulsecom representative examined at the BellSouth laboratories,

the court ruled that DSC had failed to show that the information in question constituted a trade secret.

The court also held that DSC's trade secret claims were preempted by the preemption provision of the Copyright Act, 17 U.S.C. § 301. To avoid preemption under that provision, the court explained, a state law cause of action must have "an extra element that changes the nature of the state law action so that it is qualitatively different from a copyright infringement claim," which the court held not to be true of the Virginia cause of action for misappropriation of trade secrets.

The Uniform Trade Secrets Act (UTSA), which has been adopted in Virginia, defines a trade secret as follows:

> [I]nformation, including but not limited to, a formula, pattern, compilation, program, device, method, technique, or process, that: 1. Derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and 2. Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

Va.Code Ann. § 59.1-336. The statute defines "improper means" to include theft, bribery, misrepresentation, breach of a duty or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or other means. *Id.*

Although the district court concluded that none of the information about the Litespan system that Pulsecom obtained at the BellSouth labs constituted a trade secret, there is at least a triable issue of fact as to whether the provisioning commands that Pulsecom obtained would qualify as trade secrets under the

UTSA definition. DSC offered evidence that the Pulsecom cards would operate with the improved version of Litespan software only after Pulsecom's engineers obtained and applied the codes. Moreover, DSC's evidence showed that Pulsecom paid BellSouth a fee in order to be able to obtain the information, which was not ascertainable by proper means because it was licensed to BellSouth subject to a confidentiality agreement. While Pulsecom argues that the provisioning codes could not be trade secrets, since the Litespan system was available on the open market, DSC's evidence indicated that even though Pulsecom was able to purchase two Litespan systems, it was not able to obtain copies of the updated system software and accompanying documentation.

With respect to the information obtained through the use of the "snooper board" that was sent to NYNEX, there was also sufficient evidence to raise a triable issue of fact as to whether that information was a trade secret. The information—the method DSC used to exclude Pulsecom as a competitor—was apparently of economic value to DSC, and the information was apparently not available by proper means because it was licensed to NYNEX subject to a confidentiality agreement. The fact that the information related to locations in the Pulsecom boot code that the Litespan was looking for does not mean that the information was not a trade secret; the information was DSC's even though it related to a method of exclusion that relied on examination of a non-DSC product.

There was likewise a triable issue of fact on the question whether the information obtained as a result of Pulsecom's activities at BellSouth and NYNEX was obtained by misappropriation, as is required by the UTSA. Misappropriation requires the use of "improper means." A jury could find that Pulsecom obtained that information by inducing BellSouth and NYNEX to breach their confidentiality

agreements with DSC. Accordingly, there was a triable issue of fact as to whether Pulsecom misappropriated any of DSC's trade secrets within the meaning of the UTSA.

Finally, we reject the district court's ruling that the trade secrets claim was preempted by the federal Copyright Act. The Fourth Circuit has held that 17 U.S.C. § 301 requires a two-step preemption inquiry. The work must be "within the scope of the subject-matter of copyright," and "the rights granted under state law must be equivalent to any exclusive rights within the scope of federal copyright as set out in 17 U.S.C. § 106." *United States ex rel. Berge v. Trustees of Univ. of Ala.*, 104 F.3d 1453, 1463, 41 USPQ2d 1481, 1488 (4th Cir.1977). The first part of the test is clearly satisfied in this case, as DSC's computer programs are within the subject matter of 17 U.S.C. § 102. The second part of the test, however, is not satisfied here. As the Fourth Circuit has held, a state law cause of action avoids preemption by the Copyright Act only when the state law cause of action "incorporate[s] elements beyond those necessary to prove copyright infringement, and . . . regulate[s] conduct qualitatively different from the conduct governed by federal copyright law." *Trandes Corp. v. Guy F. Atkinson Co.*, 996 F.2d 655, 659, 27 USPQ2d 1014, 1017-18 (4th Cir.1993). Trade secret misappropriation under Virginia law requires "misappropriation" of information, either by a person who used improper means or by a person who knew or had reason to know that the information was derived through improper means or from or through a person who owed a duty not to reveal it, or by accident or mistake. Va.Code Ann. § 59.1-336. Copyright infringement, on the other hand, requires only that the plaintiff owns a valid copyright and that the defendant copied original elements of the copyrighted work. *Trandes*, 996 F.2d at 660, 27 USPQ2d at 1018. Moreover, the additional element of misappropriation regulates conduct qualitatively different from that regulated by federal copyright law. DSC's

trade secret claim is therefore not preempted by 17 U.S.C. § 301. *Cf. Alcatel USA, Inc. v. DGI Techs., Inc.*, 166 F.3d at 785-89 (action for misappropriation under Texas common law of unfair competition preempted because misappropriation does not require any element beyond those required for copyright infringement). Because DSC's trade secret claims are not preempted, and because DSC's evidence on the trade secret claims raised a triable issue of fact, we reverse the district court's order dismissing DSC's trade secret claims and remand that portion of the case to the district court for further proceedings.

D

DSC next contends that the district court improperly ruled as a matter of law that Pulsecom is not liable for interfering with DSC's business expectancy.

DSC claimed that it had "a specific business expectancy with Bell Atlantic for a commitment of $40 million of Litespan equipment and software." DSC had made an offer to sell equipment and software to Bell Atlantic for $40 million. The parties ultimately entered into a contract for the sale of the equipment and software for $27 million. The $27 million contract did not include the purchase of any of DSC's Litespan POTS cards, but Bell Atlantic ultimately purchased all of its requirement of Litespan POTS cards from DSC, although at a lower price than DSC initially offered. DSC's claim is for the $13 million differential between the contract it offered Bell Atlantic and the contract the parties ultimately executed.

In order to establish the tort of intentional interference with business relations under Virginia law, a plaintiff must prove: (1) the existence of a particular business relationship or expectancy, with the probability of future economic benefit to

the plaintiff; (2) the defendant's knowledge of the relationship or expectancy; (3) a reasonable certainty that absent the defendant's intentional misconduct, the plaintiff would have continued the relationship or realized the expectancy; and (4) damage to the plaintiff. *See Glass v. Glass*, 228 Va. 39, 321 S.E.2d 69, 77 (1984).

The expectancy in question must be reasonably certain to be realized. *See Levine v. McLeskey*, 881 F.Supp. 1030, 1057 (E.D.Va. 1995). The only evidence that DSC offered with respect to the business expectancy element of its tort claim was (1) a Pulsecom interoffice memo stating that Pulsecom had learned of the $40 million DSC offer to Bell Atlantic, expressing concern about Bell Atlantic committing $40 million to DSC and effectively freezing Pulsecom out of its business for the period covered by the offer, and (2) testimony from a DSC employee that Bell Atlantic had rejected DSC's $40 million offer and had informed him that it was not interested in buying the POTS cards included in the proposal, which the employee thought strange since the POTS card is the card most used in the Litespan system.

The evidence, viewed in the light most favorable to DSC, falls short of establishing to a reasonable certainty that DSC would have made $13 million in sales of POTS cards to Bell Atlantic. Moreover, DSC failed to prove that Pulsecom's actions caused it to lose the $13 million that it claimed to have lost. DSC's evidence simply failed to raise a question on which a reasonable jury could find either that Bell Atlantic would have accepted the $40 million offer but for Pulsecom's interference, or that Pulsecom's interference caused the reduction in the price that Bell Atlantic ultimately paid for the DSC POTS cards. The district court was therefore correct in dismissing DSC's claim for intentional interference with business relations.

III

A

In its cross-appeal, Pulsecom focuses principally on the district court's grant of summary judgment to DSC on the issue of patent infringement.

Pulsecom owns U.S. Patent No. 5,263,081 (the '081 patent), which relates to a method and apparatus for transmitting voice frequency signals to telephones in the "on hook" condition in a "ground start" telephone system. "Ground start" and "loop start" are two DC signaling modes used in POTS-type telephone systems to request service (*e.g.*, to request a dial tone). Most ordinary analog telephones are connected to loop start systems; ground start is generally reserved for more complex applications, such as PBX or WATS systems. "On hook" voice-frequency transmission permits services such as caller identification, in which voice frequency information identifying the calling numbers can be transmitted to a telephone and displayed before the telephone is taken off the hook.

In the district court, Pulsecom argued that DSC's Remote Universal Voice Grade (RUVG) card, which is one of the plug-in channel cards used in the Litespan system, infringes claims 2, 5 and 7 of the '081 patent because it is capable of providing on-hook transmission in ground start mode PBX systems. Ruling on summary judgment motions, the district court held that DSC's RUVG cards do not infringe any of the asserted claims of the '081 patent. The court's judgment was based on its construction of claims 2 and 5. The pertinent portion of claim 2, which does not vary materially from the pertinent portion of claim 5, is set forth below:

> An apparatus for providing a voice frequency (VF) path for on-hook VF transmission through each of a plurality of channel units, each including a subscriber line interface circuit chip (SLIC), to a subscriber telephone instrument in a digital loop carrier system for providing POTS-type telephone service using DC signaling to the subscriber telephone instrument comprising the combination of. . . .

In construing the claim language, the court first ruled that the term "subscriber telephone instrument" refers to a typical analog telephone normally found in POTS service applications. Second, the court concluded that "POTS-type telephone service" is limited to service to normal analog telephones and does not include service to a PBX system. Because DSC's RUVG card is used only with PBX systems, the court determined that there was no infringement.

The term "telephone instrument" is not given a special definition in the patent, and nothing in the specification or prosecution history of the '081 patent suggests that the patentee meant to depart from the ordinary meaning of the term. As the district court properly held, a "telephone instrument" is commonly understood to be a device with a hook switch, a speaker, a microphone, and a keypad (or dial) for dialing numbers. We construe the term, as used in the '081 patent, consistently with that common understanding.

Pulsecom argues that the term "telephone instrument" includes PBX equipment, because the patent specification draws a distinction between conventional analog telephones, which operate using LS signaling, and generic "telephone instruments," which can operate using either LS or GS signaling. The portion of the specification on which Pulsecom relies reads as follows:

> Two DC supervisory signaling methods are employed in order to allow the subscriber equipment to request service on POTS-type telephone lines. . . . The DC supervisory signaling methods are Loop Start (LS) and Ground Start (GS).
>
> * * * * *
>
> In Ground Start, the subscriber signals the [central office] of the line request by grounding one leg of the telephone line and subsequently closing the loop with a DC termination. GS signaling is usually used with, but is not limited to, private branch exchanges (PBX), wide area telephone service (WATS) lines, and WATS trunks operating into a local [central office].

While this portion of the specification distinguishes between equipment using LS and GS signaling, it does not provide support for Pulsecom's argument that the term "telephone instrument" is broad enough to include all equipment included within a PBX system, such as the PBX interface between RUVG cards and the individual telephones in the PBX system.

The key to the proper construction of the claim language "for providing POTS-type telephone service using DC signaling to the subscriber telephone instrument" is the requirement that the subscriber telephone instrument use DC signaling to request service. Accordingly, we construe the claim language to include only those systems in which the telephone instrument requests telephone service using DC signaling.

Given the proper construction of "telephone service using DC signaling to the subscriber telephone instrument," the district court's grant of summary judgment of nonfringement

cannot stand on the record before us, because the record presents an unresolved factual question. A PBX system allows a large number of telephone users to share a limited number of telephone lines. A typical PBX system comprises PBX equipment that is connected on one side to one or more DLC interface cards (such as DSC's RUVG card) and on the other side to a number of PBX telephones. When a call is placed from a PBX telephone, the PBX equipment (*i.e.*, the interface between the PBX telephones and the RUVG cards) routes it either to another of the connected PBX telephones (in the case of an internal call) or to an external line (in the case of a call to an outside number). The unresolved factual question is whether, in the case of an external call, it is the PBX equipment, the calling PBX telephone, or some other device that requests service using DC signaling.

If the PBX equipment requests service using DC signaling, there is no "telephone service using DC signaling to the subscriber telephone instrument," as provided in claims 2 and 5 of the '081 patent, because in that case the service using DC signaling would extend only to the PBX equipment, which does not constitute a "telephone instrument." If, on the other hand, the PBX telephones request service using DC signaling, the device in question would be within the scope of the disputed claim language, because telephone service using DC signaling would extend to the telephone instruments themselves.

Because there is a genuine issue of fact material to the question of infringement, we vacate the district court's summary judgment and remand the case for proceedings consistent with our claim construction. Since the court based its non-infringement ruling on the language of claims 2 and 5 quoted above, the court found it unnecessary to determine whether there are other aspects of those claims that would defeat

Pulsecom's claim of infringement. The district court therefore may find it necessary to consider that issue on remand.

DSC invites us to sustain the district court's judgment on other grounds, but we decline to do so. First, DSC points out that there is no evidence that it has ever made, used, sold, or offered to sell any type of "telephone instrument." Consequently, it argues it cannot be held liable for direct infringement, because claims 2 and 5 recite a "telephone instrument." Claims 2 and 5, however, do not require that the claimed apparatus actually include a "telephone instrument"; the pertinent language simply requires the apparatus to provide POTS-type service that uses DC signaling to a telephone instrument.

Second, DSC argues that its RUVG cards do not contain the limitation inherent in the following means-plus-function clause that appears in both claims 2 and 5:

> means in each said control unit for generating control signals for said associated channel unit for establishing through a portion of the channel unit a communication path in response to receipt by said control unit means of an "idle" code in ground start mode during idle condition.

To establish infringement of a claim containing a means-plus-function clause, the patentee must prove that the accused device performs the recited function and that it does so through a structure that is disclosed in the specification or through a structure that is equivalent to the disclosed structure. *See, e.g., Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388, 21 USPQ2d 1383, 1387 (Fed.Cir.1992). In this case, there is a question of fact as to whether DSC's RUVG card performs the function recited by the limitation. On the record before the

district court, that question was not suitable for disposition by way of summary judgment.

One final comment on the district court's judgment is appropriate. The district court apparently based its ruling solely upon its construction of claims 2 and 5, because it did not expressly construe the language of claim 7. Pulsecom has not appealed that aspect of the judgment against it, and any grounds for objection in this regard are deemed waived.

B.

Pulsecom's second contention in its cross-appeal is that DSC committed copyright misuse by attempting to use its copyright claims to prevent competition in the POTS card market. Copyright misuse is a defense to a claim of copyright infringement. *See Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970, 976-77, 15 USPQ2d 1846, 1851-52 (4th Cir.1990); *Alcatel USA, Inc. v. DGI Techs., Inc.*, 166 F.3d at 792-93. The district court denied Pulsecom's motion for summary judgment on the issue of copyright misuse, postponing the resolution of that issue until trial. At trial, the court dismissed DSC's copyright claims at the close of DSC's case and thus had no occasion to address Pulsecom's copyright misuse defense. The copyright misuse defense is therefore not ripe for appellate review, and for that reason we decline Pulsecom's invitation to discuss the merits of that defense at this point in the litigation.

Each party shall bear its own costs for this appeal.

AFFIRMED IN PART, REVERSED IN PART, VACATED IN PART, and REMANDED.

APPENDIX B

DSC COMMUNICATIONS CORPORATION,
Plaintiff,

v.

PULSE COMMUNICATIONS INC., Defendant.

Civil Action No. 96-1447-A.

United States District Court,
E.D. Virginia.
Alexandria Division.

June 10, 1997.

MEMORANDUM OPINION

HILTON, District Judge.

This case came before the Court for a trial with a jury. At the close of DSC's case, Pulsecom moved under Fed.R.Civ.P. 50 for judgment as a matter of law on all counts. The Court grants Pulsecom's motion on all counts for the reasons set forth below.

The plaintiff DSC Communications Corporation ("DSC") alleged that the defendant Pulse Communications Inc. ("Pulsecom") infringed DSC's copyrights on its Litespan telecommunications digital switching software, misappropriated DSC's trade secrets, tortiously interfered with DSC's economic opportunity and made false representations to the trade. DSC

manufactures and markets a telecommunications digital switching system known as the Litespan 2000 System ("Litespan"). The customers for the Litespan system are primarily the Regional Bell Operating Companies ("RBOCs") including Bell Atlantic, NYNEX, Ameritech, Pacific Bell, U.S. West and Bell South. The Litespan uses copyrighted software which operates through plug-in channel cards to provide residential service known in the market as "POTS" which stands for "Plain Old Telephone Service." These POTS cards perform the interface functions necessary to transmit telephone signals to and from the customer. DSC designs its POTS card as a software-based device, i.e. it includes a microprocessor and random access memory ("RAM") which temporarily downloads software into the POTS card memory to carry out the Litespan functions. The downloaded software is entitled "POTS Download Image" or "POTS-DI." The DSC POTS card microprocessor is configured to execute a software program known as the "DSC RPOTS boot code," which initializes the microprocessor, begins communications between the microprocessor and the POTS card back plane interface Application Specific Integrated Circuit ("ASIC"), and provides the microprocessor with its initial instruction set to enable further operations of the Litespan.

In 1993, Pulsecom began its efforts to reverse engineer the DSC POTS card. Pulsecom had previously succeeded in the reverse engineering and marketing of POTS and other plug-in cards for use in AT & T (Lucent) digital loop carrier systems. To reverse engineer the DSC card, Pulsecom purchased a Litespan through its agent, John Stubeda. Stubeda bought the system from Sunbelt Telecommunications, Inc. who bought it from GTE Supply, Inc., a DSC distributor. Stubeda requested Sunbelt to send the Litespan system to U.S. PICS, a Pennsylvania company that was near his home. Stubeda obtained a cashier's check from Pulsecom which was used to

pay for the Litespan system. The Litespan system was delivered to U.S. PICS and was later shipped from U.S. PICS to Pulsecom.

The Litespan was delivered to Pulsecom, in the fall of 1993, with no license or other restrictions on its use. In 1994, Pulsecom completed its reverse engineered design and began to market its own POTS card as being compatible for use with the Litespan system. This card was designed exclusively for use in the Litespan system.

In February 1994, DSC proposed to sell Bell Atlantic $40 million worth of products including POTS cards for Bell Atlantic's Litespan systems. Pulsecom learned about the proposed deal and offered to sell Bell Atlantic Pulsecom POTS cards at a price below the price being offered by DSC. Bell Atlantic initially rejected DSC's offer. However, in March 1994, DSC entered into a contract with Bell Atlantic whereby Bell Atlantic agreed to purchase approximately $30 million worth of product from DSC on the same terms and conditions as had been previously offered by DSC. The agreement was subsequently lowered by Bell Atlantic to a $27 million deal.

During the 1994-96 period, Pulsecom placed a number of its POTS cards in the testing labs of Ameritech, Bell Atlantic and NYNEX. Pulsecom determined that its POTS cards were being prevented from working in the Litespan system by the lock-out software that had been installed by DSC in certain of these testing labs. In order to determine the reason that the Pulsecom POTS cards were being locked out from the Litespan system, Pulsecom sent a POTS card to NYNEX with a snooper board.

The snooper board was used to identify the memory locations in the Pulsecom boot code which were being accessed

by the Litespan system so that Pulsecom could determine how the DSC lock-out was being achieved. Pulsecom was attempting to monitor access to the boot code on Pulsecom's own POTS card so that Pulsecom could find out what portions of the Pulsecom boot code were being read. Pulsecom obtained information from the snooper card at NYNEX that identified the locations in the Pulsecom boot code that the Litespan system was looking at in order to find out if the card was a DSC card or not. These tests did not capture any software from the Litespan, but simply recorded timing and accesses on Pulsecom's own POTS boot code to investigate DSC's lock-out card.

Pulsecom also engaged in testing of its POTS card in a Litespan machine at the testing labs at Bell South. Pulsecom employee John Bresnahan visited the Bell South labs and obtained information regarding certain commands from the Litespan manuals which were present at the Bell South labs. These commands given in a certain sequence were used to "provision" the Litespan system. The only information that Mr. Bresnahan took away from Bell South was the Litespan provision commands.

In 1996, Ameritech approved Pulsecom's POTS cards for use in its network and designated it as a second source for a compatible POTS card for the Litespan system.

Count I of the complaint charged Pulsecom with contributory copyright infringement of DSC's registered POTS-DI software. DSC claims that Pulsecom committed contributory copyright infringement by providing test POTS cards to various RBOCs because during the testing of Pulsecom's POTS cards, the RBOCs download DSC's POTS-DI software onto the Pulsecorn [sic] POTS card. DSC claims that this downloading is an unauthorized use and therefore a direct

infringement by the RBOCs, and that since Pulsecom provided its POTS card to the RBOCs, Pulsecom was guilty of contributory infringement.

Section 117 of the Copyright Act provides:

> Notwithstanding the provisions of Section 106, it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaptation of that computer program provided:
>
> (1) that such new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that is used in no other manner.

17 U.S.C. § 117. Thus, Section 117 statutorily limits a copyright owner's rights in that it permits the owner of a copy of a computer program to make certain copies of that program without the permission of the program's copyright owner. *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255 (5th Cir. 1988).

Congress passed Section 117 knowing that computer users would need to make copies of computer software in order to utilize that software. *Aymes v. Bonelli*, 47 F.3d 23, 26 (2d Cir.1995) (citing H.R.Rep. No. 1307, 96th Cong., 2d Sess., Pt. I, at 23 (1980), reprinted in 1980 U.S.C.C.A.N. 6460, 6482)). Section 117 provides a legitimate holder of a computer program with permission to do that copying of the program which is necessary for him to be able to use it in his computer without running afoul of possible infringement actions. *Apple Computer Inc. v. Formula Int'l, Inc.*, 594 F.Supp. 617, 621 (C.D.Cal.1984) (citing CONTU Meeting No. 19 at 98-99 (January 1978)). The trend is to read Section 117 broadly. *See Data Prods., Inc. v. Reppart*, Civ. No. 89-1291-K, 1990

WL 198610, 1990 U.S. Dist. Lexis 16330, 18 U.S.P.Q.2d 1058 (D.Kan. Nov.28, 1990) (holding that cases which interpret Section 117 narrowly are against the weight of recent authority); *Foresight Resources Corp. v. Pfortmiller*, 719 F.Supp. 1006, 1009-10 (D.Kan.1989) (holding that legislative history and recent case law requires broad interpretation of Section 117); *Vault Corp., RAV Communications, Inc. v. Philipp Bros., Inc.*, No. 87 CIV 3366(LLS), 1988 WL 36174 (S.D.N.Y. April 13, 1988) (holding that Section 117 was intended by Congress to be read broadly); Stem, *Section 117 of the Copyright Act: Charter of Software Users' Rights or an Illusory Promise?*, 7 W.New Engl.L.Rev. 459 (1985) (broad reading of Section 117 warranted by legislative history).

Under Section 117, it is not an infringement for an RBOC as an "owner of a copy" of a computer program (namely, the POTS-DI software) to make or authorize the making of a copy as an "essential step" in the utilization of that program where the copy is used in no other manner. Furthermore, the existence of a license agreement between DSC and its customers does not preclude a finding that the RBOCs are "owners of a copy" for the purposes of Section 117. *See Foresight Resources*, 719 F.Supp. at 1009 (holding Section 117 applied despite existence of licensing agreement); *Vault Corp.*, 847 F.2d at 262. It is necessary to determine ownership of the copy, not whether the transaction with DSC involved a license to use the program. Nimmer, *The Law of Computer Technology*, ¶ 1.18[1], at 1-102. In this case, the transaction involves a single payment, giving the buyer an unlimited period in which it has a right to possession, making transaction a sale. The RBOCs make a single payment for the Litespan software and obtain a perpetual license to use and maintain the same. It is clear that Section 117 was intended to encompass the RBOCs as legitimate holders of copies of the DSC POTS-DI software.

As discussed above, Section 117 provides that the owner of a copy of a computer program can make a copy or adaptation of that program as long as it is created as an "essential step" in the utilization of the program. In order for a POTS card to boot up in the Litespan, it is necessary for DSC's POTS-DI software to be temporarily downloaded into the RAM of the Pulsecom Pots [sic] cards. *See Allen-Myland, Inc. v. International Business Machines Corp.*, 746 F.Supp. 520, 536 (E.D.Pa.1990) (holding that Section 117(1) permits the copying of a program onto RAM in order to permit the computer to execute the program); *Vault Corp.*, 847 F.2d at 261 (holding that copying of software on to hard drive in order to study how it operated was allowable under Section 117); *Midway Mfg. Co. v. Strohon*, 564 F.Supp. 741, 745 n. 2 (N.D.Ill.1983) (holding § 117 is intended to permit owners of copies to make the programs compatible with their computer hardware or systems).

DSC claims that its license agreements with the RBOCs (Ameritech, NYNEX, Bell Atlantic and Bell South) prohibited the RBOCs from downloading the DSC POTS-DI software onto any POTS cards other than DSC manufactured or licensed POTS cards. These RBOC agreements have in common the following provisions: a non-exclusive market rights clause reserving to the RBOC the right to buy comparable equipment from a second source; a software rights clause granting to the RBOC the right to use the DSC software in the equipment for which it was intended; and a requirement that DSC comply with all federal laws in the performance of the agreement. However, DSC's Vice-President of Sales, Christopher Strunk testified that it was DSC's understanding of this clause that the DSC software "could be used for installation purposes or for any purposes that Bell Atlantic so chose in the operation of their system." The RBOCs were entitled to use the DSC software in testing comparable channel cards, including the Pulsecom POTS card. It would be nonsensical to give the RBOCs the right under the

non-exclusive rights clause to buy comparable POTS cards from a second source but prevent the RBOCs from using such POTS cards in the Litespan system under the software rights clause. The software rights clause merely limits the RBOCs to use of the DSC software in the Litespan purchased from DSC but does not prohibit the RBOCs from using that software on compatible POTS cards.

In Counts II-IV of the Complaint DSC alleges that Pulsecom is liable as a direct infringer of DSC's copyrights in the POTS-DI software, RPOTS boot code software and the Litespan system software respectively. At the close of its case DSC withdrew its claim of infringement of their RPOTS boot code software. Pulsecom's copying of the DSC software were made as part of their reverse engineering process to develop a competing POTS card. Such copying for reverse engineering of a lawfully acquired system is permissible fair use. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1523 (9th Cir.1992); 1 Roger M. Milgrim, *Milgrim on Trade Secrets* § 1.01[2][a], at 1-34 (1996).

The Copyright Act at 17 U.S.C. § 107 identifies factors to consider in deciding whether a particular instance of copying is fair use. The statute states that:

> [F]air use of a copyrighted work, including such use by reproduction in copies . . . for the purposes such as research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—(I) the purpose and character of the use, including whether such use is of a commercial nature of [sic] is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the

> copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work.

17 U.S.C. § 107. The purpose of the Copyright Act is to stimulate artistic activity for the general public good. *Sony Corp. v. Universal City Studios*, 464 U.S. 417, 432, 104 S.Ct. 774, 783-84, 78 L.Ed.2d 574 (1984).

> [T]he fact that computer programs are distributed for public use in object code form often precludes public access to the ideas and functional concepts contained in those programs, and thus confers on the copyright owner a de facto monopoly over those ideas and functional concepts. That result defeats the fundamental purpose of the Copyright Act to encourage the production of original works by protection the expressive elements of those works while leaving the ideas, facts, and functional concepts in the public domain for others to build on.

Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510, 1527 (9th Cir.1992).

The Copyright Act, properly read and interpreted by the case law, allows the fair use defense to copyright infringement for those who have legally acquired the copyrighted work, and who reverse engineer the copyrighted work to understand the functional or unprotected elements of the work. In *Sega* the court found that the record established that the defendant engaged in "wholesale copying" of plaintiff's copyrighted computer program code as part of the development of a competing product, yet found that this copying was fair use. Similarly in this case, where the disassembly and copying of DSC's copyrighted programs was the only way to gain access

to the ideas and functional elements embodied in the program, and given Pulsecom's legitimate reason for such access, namely development of a competing POTS card, such copying is fair use as a matter of law. *See Sega*, 977 F.2d at 1527-28. Reverse engineering object code to discern the unprotectable ideas in computer program is fair use. *Atari Games Corp. v. Nintendo of America, Inc.*, 975 F.2d 832, 843 (Fed.Cir.1992) (citing *Feist Publications v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349-51, 111 S.Ct. 1282, 1290, 113 L.Ed.2d 358 (1991)).

DSC also asserts that Pulsecom is guilty of direct infringement by virtue of inserting a Pulsecorn [sic] POTS card into a Litespan machine at the testing labs at Bell South and NYNEX. There is no evidence that the insertion of the Pulsecom POTS card into the Bell South Litespan system was done without the permission of Bell South. Nor is there any evidence that the Pulsecom employee actually inserted a Pulsecom POTS card into the Bell South Litespan system. Regardless of who operated the Litespan machine, Bell South was the legitimate holder of a copy of the POTS-DI software and could authorize the making of a copy of the POTS-DI software on the Bell South machine. Furthermore, the Bell South testing was permissible, because it was merely a test on Bell South's Litespan system to determine how the Pulsecomn [sic] POTS card was being locked out of the Bell South Litespan.

The Pulsecom POTS card with an attached snooper board was inserted into a Litespan machine at NYNEX. There is no evidence that the card was inserted by Pulsecom. As noted above, the RBOCs have the right under Section 117 to make a copy of the POTS-DI software. Thus any copies of the POTS-DI software that were made by NYNEX in the course of testing the Pulsecom POTS card are protected under Section 117 of the Copyright Act. These tests did not capture any

software from the Litespan, but simply recorded timing and accesses on Pulsecom's own POTS boot code to investigate DSC's lock-out card.

Count V of the complaint charged Pulsecom with misappropriating DSC's trade secrets. The Virginia Uniform Trade Secrets Act ("UTSA") provides a remedy of injunctive relief and damages against a person who misappropriates a trade secret. Va.Code Ann. §§ 59.1-337, 59.1-338. A trade secret is:

> [I]nformation, including but not limited to, a formula, pattern, compilation, program, device, method, technique, or process, that: 1. Derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and 2. Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

Id. at § 59.1-336; *see also Dionne v. Southeast Foam Converting & Packaging Inc.*, 240 Va. 297, 397 S.E.2d 110, 113 (1990). "Misappropriation" of a trade secret is defined as:

> 1. Acquisition of a trade secret of another by a person who knows or has reason to know that the trade secret was acquired by improper means; or
>
> 2. Disclosure or use of a trade secret of another without express or implied consent by a person who
>
> > a. Used improper means to acquire knowledge of the trade secret; or

> b. At the time of disclosure or use, knew or had reason to know that his knowledge of the trade secret was
>
> > (1) derived from or through a person who had utilized improper means to acquire it; (2) Acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use; (3) Derived from or through a person who owed a duty to the person seeking relief to maintain its secrecy or limit its use; or (4) Acquired by accident or mistake.

Va.Code Ann. § 59.1-336. Improper means includes theft, bribery, misrepresentation, breach of a duty or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or other means. *Id.* The evidence showed that the Litespan system was purchased lawfully by Pulsecom on the open market, in order to reverse engineer a POTS card. Pulsecom's purchase of the Litespan system through Stubeda does not constitute improper means. No trade secrets were misappropriated by Pulsecom.

Pulsecom did not misappropriate any DSC trade secrets through its use of the snooper board at the NYNEX testing labs. The only information that Pulsecom retrieved from the snooper card at NYNEX was an identification of the locations in the Pulsecom boot code that the Litespan system was looking at in order to find out if the card was a DSC card or not. Furthermore, there was no evidence presented that the DSC lock-out software which was being accessed by Pulsecom was a trade secret.

DSC's expert, Dr. Magleby, testified that a Pulsecom employee had visited the Bell South labs and obtained information regarding certain commands from the Litespan manuals. Dr. Magleby testified that the sequence of these commands were used to "provision" the Litespan system. The evidence did not establish that the information obtained by Pulsecom at the Bell South labs was a trade secret. The only information that Pulsecom took away from Bell South was the Litespan provision commands.

DSC's trade secret counts are preempted by 17 U.S.C. § 301. The Copyright Act provides:

> On and after January 1, 1978, all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106 in works of authorship that are fixed in a tangible medium of expression and come within the subject matter of copyright as specified by sections 102 and 103, whether created before or after that date and whether published or unpublished, are governed exclusively by this title. Thereafter, no person is entitled to any such right or equivalent right in any such work under the common law or statutes of any State. 17 U.S.C. § 301(a).

The Fourth Circuit has recently construed this provision in *United States ex rel. Berge v. Trustees of Univ. of Ala.*, 104 F.3d 1453, 1463-64 (4th Cir.1997). In *Berge*, the Court held that Section 301 of the Copyright Act preempted the Alabama conversion statute in the allegedly converted work. The Fourth Circuit rejected the argument that the conversion claim was not preempted because the ideas embodied in a work covered by the Copyright Act do not fall within the scope of the Act. *Id.; see*

also National Basketball Ass'n v. Motorola, Inc., 105 F.3d 841, 848-854 (2nd Cir.1997).

To avoid preemption, there must be an extra element that changes the nature of the state law action so that it is qualitatively different from a copyright infringement claim. *Berge*, 104 F.3d at 1463 (citing *Rosciszewski v. Arete Assocs., Inc.*, 1 F.3d 225, 229-30 (4th Cir. 1993)). DSC's trade secret claim contains no extra element from its essential claim that the ideas contained within the DSC copyrighted software were misappropriated.

In Count 6 DSC claims that Pulsecorn [sic] improperly interfered with DSC's business expectancy with respect to a proposed business deal between DSC and Bell Atlantic in February and March, 1994. The elements of a tortious interference claim are: (1) the existence of a valid contractual relationship or expectancy; (2) knowledge of the interferer of the relationship or expectancy; (3) intentional interference inducing or causing the breach or termination of the relationship or expectancy; and (4) resultant damage. *Levine v. McLeskey*, 881 F.Supp. 1030, 1055 (E.D.Va. 1995); *Century-21 v. Elder*, 239 Va. 637, 640, 391 S.E.2d 296 (Va.1990). If the business relationship is an expectancy rather than a contract, the elements also include (5) a probability of future economic benefit; and (6) a reasonable certainty that absent defendants' intentional misconduct, plaintiffs would have continued the relationship or realized the expectancy. *Levine*, 881 F.Supp. at 1057.

Pulsecom had knowledge of DSC's proposed deal with Bell Atlantic. Pulsecom made a proposal to Bell Atlantic for POTS cards at a price which was below tile price being proposed by DSC for POTS cards. However, Pulsecom was not the proximate cause of Bell Atlantic's failure to proceed

with the $40 million deal with DSC. There were a number of business reasons why Bell Atlantic did not proceed with the deal. Bell Atlantic often would enter into written agreements to purchase a specific dollar amount of product and cancel that order at the last minute for a variety of reasons. DSC did not have a reasonable expectation of entering into a deal with Bell Atlantic for $40 million in March, 1994. There was nothing improper in Pulsecom's actions in attempting to compete with DSC for Bell Atlantic's business for POTS cards.

For the reasons stated above, the Court finds that defendant's motion for judgment as a matter of law should be granted.

APPENDIX C

17 U.S.C. § 117. Limitations on exclusive rights: Computer programs

Notwithstanding the provisions of section 106, it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaptation of that computer program provided:

> (1) that such a new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner, or
>
> (2) that such new copy or adaptation is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful.

Any exact copies prepared in accordance with the provisions of this section may be leased, sold, or otherwise transferred, along with the copy from which such copies were prepared, only as part of the lease, sale, or other transfer of all rights in the program. Adaptations so prepared may be transferred only with the authorization of the copyright owner.

(Pub. L. 94-553, title I, § 101, Oct. 19, 1976, 90 Stat. 2565; Pub. L. 96-517, § 10(b), Dec. 12, 1980, 94 Stat. 3028.)

17 U.S.C. § 117. Limitation on exclusive rights: computer programs

(a) Making of additional copy or adaptation by owner of copy. Notwithstanding the provisions of section 106, it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaptation of that computer program provided:

> (1) that such a new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner, or
> (2) that such new copy or adaptation is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful.

(b) Lease, sale, or other transfer of additional copy or adaptation. Any exact copies prepared in accordance with the provisions of this section may be leased, sold, or otherwise transferred, along with the copy from which such copies were prepared, only as part of the lease, sale, or other transfer of all rights in the program. Adaptations so prepared may be transferred only with the authorization of the copyright owner.

(c) Machine maintenance or repair. Notwithstanding the provisions of section 106, it is not an infringement for the owner or lessee of a machine to make or authorize the making of a copy of a computer program if such copy is made solely by virtue of the activation of a machine that lawfully contains an authorized copy of the computer program, for purposes only of maintenance or repair of that machine, if—

(1) such new copy is used in no other manner and is destroyed immediately after the maintenance or repair is completed; and

(2) with respect to any computer program or part thereof that is not necessary for that machine to be activated, such program or part thereof is not accessed or used other than to make such new copy by virtue of the activation of the machine.

(d) Definitions. For purposes of this section—

(1) the "maintenance" of a machine is the servicing of the machine in order to make it work in accordance with its original specifications and any changes to those specifications authorized for that machine; and

(2) the "repair" of a machine is the restoring of the machine to the state of working in accordance with its original specifications and any changes to those specifications authorized for that machine.

(As amended Oct. 28, 1998, P. L. 105-304, Title III, § 302, 112 Stat. 2887.)

APPENDIX D

Excerpts From DSC Agreement

* * * * *

This Agreement is made by and between . . . (hereinafter "Buyer") . . . and DSC Communications Corporation, (hereinafter "Seller"), a Delaware Corporation with principal offices located at 1000 Coit Road, Plano, Texas 75075.

MATERIAL and/or SERVICES are hereby offered for sale by Seller and may be purchased by Buyer in accordance with the terms and conditions and specifications stated herein. MATERIAL and/or SERVICES shall be furnished by Seller on an as-ordered basis. MATERIAL and/or SERVICES may be ordered in combination or separately.

ARTICLE I - INTRODUCTION

* * * * *

DEFINITIONS

"MATERIAL" as used herein shall mean Seller's Litespan-2000 and Starspan Fiber In The Loop products, including SOFTWARE, as listed in Appendix A.

* * * * *

"SOFTWARE" as used herein shall mean Seller's Litespan-2000 software and any other software furnished by Seller hereunder.

* * * * *

ARTICLE II - GENERAL TERMS AND CONDITIONS

* * * * *

INVOICES

With respect to invoices for charges associated with PRICE COMMITMENT or FIRM PRICE QUOTES, Seller agrees to invoice Buyer the applicable price(s), charges and fees, as reduced by any applicable discounts, according to the following schedules or as mutually agreed to by Buyer and Seller:

(1) [T]he charges for ENGINEERING SERVICES may be invoiced upon completion of such SERVICES to the satisfaction of the Buyer.

(2) [T]he charges for the MATERIAL and/or SOFTWARE shipped, including associated transportation charges, may be invoiced on the date of shipment.

With respect to invoices for any INSTALLATION and associated SERVICES (e.g., warehousing, hoisting and hauling) performed by Seller, Seller agrees to invoice Buyer . . . percent . . . of the appropriate installation charges upon completion of . . . percent . . . of physical work and to invoice Buyer the remaining . . . percent . . . upon issuance of Seller's installation completion notice.

With respect to invoicing for SERVICES excluding installation, Seller agrees to render invoices to Buyer monthly, but not prior to the performance of said SERVICES.

With respect to invoicing for MATERIAL or documentation which is not associated with a PRICE COMMITMENT or FIRM PRICE QUOTE, Seller agrees to invoice Buyer the

applicable price(s), charges and fees, as reduced by any applicable discounts, not earlier than the date of delivery.

Seller agrees to render separate invoices for each shipment or Order in duplicate unless otherwise specified.

Seller shall render a "RECORDS ONLY" final invoice within ninety (90) days of job completion for each Order hereunder indicating that the Buyer should expect no further billing for the Order. Seller shall not render invoices subsequent to the final invoice without prior written approval from Buyer.

Whether manual or mechanized, the invoice must contain the same information as the detailed summary of MATERIAL furnished with PRICE COMMITMENT/FIRM PRICE QUOTE. If the Seller desires to issue mechanized invoices, the mechanized invoice must conform to ANSI/TCIF Standards and Buyer's supplements to these standards and transmitted in a mode specified by Buyer.

* * * * *

NON-EXCLUSIVE MARKET RIGHTS

It is expressly understood and agreed that this Agreement does not grant to Seller an exclusive privilege to sell or otherwise provide to Buyer any or all products or SERVICES of the type described in this Agreement. It is, therefore, understood that Buyer may contract with other manufacturers and suppliers for the procurement of comparable MATERIAL or SERVICES. Buyer shall determine, at its own discretion, the extent to which Buyer will market, advertise, promote, support or otherwise assist in further offerings of the MATERIAL. Seller agrees that purchases by Buyer under this Agreement shall not require Buyer to continue any level of such purchases. Buyer assumes

no liability for MATERIAL or SERVICES produced, processed, rendered or shipped in excess of the amount specified in this Agreement or in an Order issued pursuant to this Agreement. Estimates or forecasts furnished by Buyer shall not constitute commitments.

* * * * *

TERMS OF PAYMENT

Buyer shall pay all invoices within thirty (30) days following date of invoice provided such invoices comply with the provisions set forth in the section entitled "INVOICES".

* * * * *

ARTICLE III - MATERIAL

* * * * *

INSIGNIA

Upon Buyer's written request certain of Buyer's trademarks, trade names, insignia, symbols, decorative designs, or evidences of Buyer's inspection (hereafter "Insignia"), will be properly affixed by Seller to the MATERIAL furnished. Such Insignia will not be affixed, used or otherwise displayed on the MATERIAL furnished or in connection therewith without Buyer's written approval. The manner in which such Insignia will be affixed must be approved in writing by the Buyer.

Material rejected or not purchased by Buyer which utilized such Insignia shall have all such Insignia removed prior to any sale, use or disposition thereof. Seller agrees to indemnify and hold Buyer harmless from any claim, loss or damage arising out of

Seller's failure to do so. This clause shall in no way modify provisions relating to the section entitled "BUYER'S INFORMATION".

* * * * *

TITLE AND RISK OF LOSS

Title and risk of loss to MATERIAL, except SOFTWARE, purchased by Buyer[] . . . under this Agreement, shall vest in Buyer when the MATERIAL has been delivered at the F.O.B. point.

Title and risk of loss to MATERIAL, except SOFTWARE, purchased by Buyer[] . . . under this Agreement shall vest in Buyer when the MATERIAL has been delivered at the location designated in the Order. If such Order calls for additional SERVICES after delivery, such as unloading, or the like, risk of loss shall pass to Buyer when such additional SERVICES have been performed by Seller or Seller's representative. Buyer shall notify Seller promptly of any claim and shall cooperate with Seller in every reasonable way to facilitate the settlement of any such claim.

* * * * *

ARTICLE IV - SOFTWARE

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CONTINUING SUPPORT

Except as otherwise specified in this Agreement, the license term for SOFTWARE shall be for the life of the MATERIAL.

* * * * *

RIGHTS IN SOFTWARE

Title to SOFTWARE furnished to Buyer shall remain in Seller except as otherwise provided herein. For the life of the MATERIAL, Seller grants Buyer a nonexclusive license to use the SOFTWARE. SOFTWARE shall only be used on the equipment with which it is intended to be used.

Buyer may copy the SOFTWARE for use with the equipment with which it was originally delivered, but shall not knowingly reproduce the SOFTWARE for other purposes. Any such reproduction shall include any copyright or similar proprietary notice contained in the items being reproduced.

* * * * *

SOFTWARE WARRANTY

Seller warrants that Seller has the right to grant to Buyer a license to use the SOFTWARE described herein. Seller further warrants to Buyer that the furnished SOFTWARE shall be free from material defects, that it will conform to the applicable specifications identified in Seller's Commercial and/or Technical Specifications, and that it will operate satisfactorily in Seller's MATERIAL for a period of thirty-six (36) months after the SOFTWARE is installed.

* * * * *

Defective SOFTWARE medium will be replaced within thirty-six (36) hours after verbal notification is given to Seller by Buyer. Seller shall bear the risk of in-transit loss and damage and shall prepay and bear the cost of freight for shipments to

Buyer of replacement SOFTWARE medium. Such replacement SOFTWARE medium shall be warranted by Seller for the remainder of the original SOFTWARE warranty period, or ninety (90) days, whichever is longer.

* * * * *